



**Off-base Drinking Water Sample Results,
Level 2 Laboratory Report, Level 4 Laboratory Re-
port, Electronic Data Deliverable, Data Validation Re-
port, and the Sample Location Figure, SDG 1700507**

*Naval Construction Battalion Center Gulfport
Gulfport, Mississippi*

February 2019

April 29, 2017

Vista Work Order No. 1700507

Ms. Tiffany Hill
CH2M Hill
1100 NE Circle Blvd. Suite 300
Corvallis, OR 97330

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on April 22, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-08 / NCBC Gulfport-Navy'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,



Martha Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 1700507

Case Narrative

Sample Condition on Receipt:

Ten drinking water samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 537

The drinking water samples were extracted and analyzed for the UCMR list of six PFAS using EPA Method 537.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Laboratory Reagent Blank (LRB) was extracted and analyzed with the preparation batch. No analytes were detected in the LRB above 1/2 the LOQ. As requested, a Laboratory Fortified Blank (LFB) and Laboratory Fortified Blank Duplicate (LFBD) were extracted and analyzed, since insufficient sample volume was received to prepare a Laboratory Fortified Sample Matrix and Laboratory Fortified Sample Matrix Duplicate. The LFB/LFBD recoveries were within the method acceptance criteria of 50%-150% for the low spike.

The surrogate recoveries for all QC and field samples were within the acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1700507-01	GP-RW01-0417	19-Apr-17 11:35	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-02	GP-FB01-0417	19-Apr-17 11:36	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-03	GP-RW02-0417	19-Apr-17 12:13	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-04	GP-FB02-0417	19-Apr-17 12:14	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-05	GP-RW03-0417	19-Apr-17 17:47	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-06	GP-FB03-0417	19-Apr-17 17:48	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-07	GP-RW04-0417	19-Apr-17 17:59	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-08	GP-FB04-0417	19-Apr-17 18:00	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-09	GP-RW05-0417	20-Apr-17 08:13	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-10	GP-FB05-0417	20-Apr-17 08:14	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB						EPA Method 537			
Matrix: Drinking Water Sample Size: 0.250 L		QC Batch: B7D0117 Date Extracted: 24-Apr-2017 12:47		Lab Sample: B7D0117-BLK1 Date Analyzed: 28-Apr-17 14:38 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.51	10.0	20.0		SUR 13C2-PFHxA	106	70 - 130	
PFOA	ND	4.27	10.0	20.0		SUR 13C2-PFDA	109	70 - 130	
PFOS	ND	1.96	10.0	20.0					

DL - Detection limit
RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

LCS Results

EPA Method 537

Matrix: Drinking Water Sample Size: 0.250 L	QC Batch: B7D0117 Date Extracted: 24-Apr-2017 12:47	Lab Sample: B7D0117-BS1/B7D0117-BSD1 Date Analyzed: 28-Apr-17 14:01 Column: BEH C18 28-Apr-17 14:13 Column: BEH C18
------------------------------------------------	--------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------

Analyte	LCS-%R	LCSD-%R	RPD	Labeled Standard	LCS-%R	LCSD-%R
PFBS	87.7	85.3	2.71	SUR 13C2-PFHxA	100	96.3
PFOA	96.9	83.9	14.3	SUR 13C2-PFDA	117	108
PFOS	94.2	66.6	34.3			

LCL-UCL - Lower control limit - upper control limit

Sample ID: LCS Dup

EPA Method 537

Matrix: Drinking Water Sample Size: 0.250 L	QC Batch: B7D0117 Date Extracted: 24-Apr-2017 12:47	Lab Sample: B7D0117-BSD1 Date Analyzed: 28-Apr-17 14:13 Column: BEH C18					
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PFBS	7.54	8.84	85.3	70 - 130	SUR 13C2-PFHxA	96.3	70 - 130
PFOA	8.39	10.0	83.9	70 - 130	SUR 13C2-PFDA	108	70 - 130
PFOS	6.15	9.24	66.6	70 - 130			

LCL-UCL - Lower control limit - upper control limit

Sample ID: GP-RW01-0417**EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700507-01	Date Received:	22-Apr-2017 10:16	
Project:	CTO-08 / NCBC Gulfport-Navy	Sample Size:	0.276 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	19-Apr-2017 11:35				Date Analyzed:	28-Apr-17 14:51 Column: BEH C18			
Location:	Gulfpost / Residential								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.27	9.06	18.1		SUR 13C2-PFHxA	102	70 - 130	
PFOA	ND	3.87	9.06	18.1		SUR 13C2-PFDA	110	70 - 130	
PFOS	ND	1.78	9.06	18.1					

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

Sample ID: GP-FB01-0417**EPA Method 537**

Client Data		Sample Data			Laboratory Data				
P ame:	Ck 2M k ill	Matrix:	DringinWR ater	Lab Sample:	1700507-02	Date v ecei6ed:	22-Apr-2017 10:1N		
j ru9ect:	CTO-08 / P CBC GHfpurt-P a6y	Sample Size:	0.288 L	QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47		
Date Collected:	13-Apr-2017 11:oN				Date Analyzed:	28-Apr-17 15:0o	CulHmn:	BEk	C18
Lucatiun:	GHfpust / v esidential								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
j FBS	PD	2.18	8.N8	17.4		SUv 1oC2-j Fk xA	100	70 - 1o0	
j FOA	PD	o.71	8.N8	17.4		SUv 1oC2-j FDA	10N	70 - 1o0	
j FOS	PD	1.70	8.N8	17.4					

DL - Detectiun limit
v L - v epurtinWimit

LCL-UCL - Luwer cuntrl limit - Hpper cuntrl limit
v esHts repurted tu DL.

R hen repurted, j FBS, j Fk xS, j FOA and j FOS inclHle both linear and branched isumers.
Only the linear isumer is repurted fur all uthr analytes.

Sample ID: GP-RW02-0417**EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700507-03	Date Received:	22-Apr-2017 10:16	
Project:	CTO-08 / NCBC Gulfport-Navy	Sample Size:	0.258 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	19-Apr-2017 12:13	Date Analyzed: 28-Apr-17 15:15 Column: BEH C18							
Location:	Gulfpost / Residential								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.44	9.71	19.4		SUR 13C2-PFHxA	85.2	70 - 130	
PFOA	ND	4.15	9.71	19.4		SUR 13C2-PFDA	83.4	70 - 130	
PFOS	ND	1.90	9.71	19.4					

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

Sample ID: GP-FB02-0417**EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700507-04	Date Received:	22-Apr-2017 10:16	
Project:	C3T-08 ONCBC / ulport-Navy	Sample Size:	0f286 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	19-Apr-2017 12:14				Date Analyzed:	28-Apr-17 15:28 Column: BEH C18			
Location:	/ ulport Residential								

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
Ps BS	ND	2f20	8f75	17f5		SUR 1FC2-Ps HxA	97fF	70 - 1F0	
Ps TA	ND	Ff74	8f75	17f5		SUR 1FC2-Ps DA	104	70 - 1F0	
Ps TS	ND	1f71	8f75	17f5					

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Re. ult. reported to DLf

When reported, Ps BS, Ps HxS, Ps TA and Ps TS include both linear and branched i.omer. f

Tnly the linear i.omer i. reported @r all other analyte. f

Sample ID: GP-RW03-0147

EPA Method 537

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700507-05	Date Received:	22-Apr-2017 10:16	
Project:	C3T-08 ONCBC / ulport-Navy	Sample Size:	0.27 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	19-Apr-2017 17:47				Date Analyzed:	28-Apr-17 15:40 Column: BEH C18			
Location:	/ ulpost Residential								

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.0	9.7	18.		SUR 1. C2-PFHxA	101	70 - 1.0	
PFTA	ND	.92	9.7	18.		SUR 1. C2-PFDA	109	70 - 1.0	
PFTS	ND	180	9.7	18.					

DL - Detection limit
 RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
 Results reported to DL
 When reported, PFBS, PFHxS, PFTA and PFTS include both linear and branched isomers
 Only the linear isomer is reported for all other analytes

Sample ID: GP-FB03-0147

EPA Method 537

Client Data			Sample Data			Laboratory Data				
Name:	CH2M Hill		Matrix:	Drinking Water		Lab Sample:	1700507-06	Date Received:	22-Apr-2017 10:16	
Project:	C3T-08 ONCBC / ulport-Navy		Sample Size:	0f297 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	19-Apr-2017 17:48					Date Analyzed:	28-Apr-17 15:54		Column: BEH C18	
Location:	/ ulport Re. idential									

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
Ps BS	ND	2f12	8f4F	16f9		SUR 1FC2-Ps HxA	107	70 - 1F0	
Ps TA	ND	Ff60	8f4F	16f9		SUR 1FC2-Ps DA	114	70 - 1F0	
Ps TS	ND	1f65	8f4F	16f9					

DL - Detection limit
 RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
 Re. ult. reported to DLf
 When reported, Ps BS, Ps HxS, Ps TA and Ps TS include both linear and branched i. omer. f
 Tnly the linear i. omer i. reported @r all other analyte. f

Sample ID: GP-RW01-0147

EPA Method 537

Client Data		Sample Data		Laboratory Data			
6 ame:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1700907-07	Date Received:	22-Apr-2017 10:15
NoRect:	C3T-08 O6 CBC / ulPort-6 avy	Sample Size:	0f280 L	QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47
Date Collected:	1j -Apr-2017 17:9j			Date Analyzed:	28-Apr-17 15:05	Column:	BEH C18
Location:	/ ulPo. t ORe. idential						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
Ns BS	6 D	2f24	8fj F	17fj		SUR 1FC2-Ns HxA	10F	70 - 1F0	
Ns TA	6 D	Ff81	8fj F	17fj		SUR 1FC2-Ns DA	107	70 - 1F0	
Ns TS	6 D	1f79	8fj F	17fj					

DL - Detection limit
 RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
 Re. ult. reported to DLf
 When reported, Ns BS, Ns HxA, Ns TA and Ns TS include both linear and branched i. omer. f
 Tnly the linear i. omer i. reported for all other analyte. f

Sample ID: GP-FB01-0147

EPA Method 537

Client Data			Sample Data			Laboratory Data				
Name:	Ck 2M k ill		Matrix:	DringinWR ater		Lab Sample:	1700f07-08	Date v ecei6ed:	22-Apr-2017 10:15	
Pruject:	C93 -08 TNCBC OH/purt-Na6y		Sample Size:	0Qo4 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	1o-Apr-2017 18:00					Date Analyzed:	28-Apr-17 15:1o	CulHmn:	BEk C18	
Lucatiun:	OH/pu. t Tv e. idential									
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
Ps BS	ND	2GF	8Qo	17Q		SUv 1FC2-Ps k xA	o1Q	70 - 1F0		
Ps 3 A	ND	FGF	8Qo	17Q		SUv 1FC2-Ps DA	105	70 - 1F0		
Ps 3 S	ND	1G5	8Qo	17Q						

DL - Detectiun limit
v L - v eputinWimit

LCL-UCL - Luwer cuntrl limit - Hpper cuntrl limit
v e. Ht. repurted tu DLG
R hen repurted, Ps BS, Ps k xS, Ps 3 A and Ps 3 S inclHle both linear and branched i. umer. G
3 nly the linear i. umer i. repurted /ur all uther analyte. G

Sample ID: GP-RW05-0147

EPA Method 537

Client Data			Sample Data			Laboratory Data				
Name:	Ck 2M k ill		Matrix:	DringinWR ater		Lab Sample:	1700f07-0.	Date v ecei6ed:	22-Apr-2017 10:15	
Prujet:	C93 -08 TNCBC OH/purt-Na6y		Sample Size:	0Q72 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	20-Apr-2017 8:1o					Date Analyzed:	28-Apr-17 15:o1	CulHmn:	BEk C18	
Lucatiun:	OH/pust Tv esidential									
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
PFBS	ND	2G1	. Q0	18G		SUv 1oC2-PFk xA	117	70 - 1o0		
PF3 A	ND	oGo	. Q0	18G		SUv 1oC2-PFDA	117	70 - 1o0		
PF3 S	ND	1G0	. Q0	18G						

DL - Detectiun limit
v L - v epurtinWimit

LCL-UCL - Luwer cuntrl limit - Hpper cuntrl limit
v esHts repurted tu DLG
R hen repurted, PFBS, PFk xS, PF3 A and PF3 S inclHle both linear and branched isumersG
3 nly the linear isumer is repurted /ur all uther analytesG

Sample ID: GP-FB05-0147**EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700507-10	Date Received:	22-Apr-2017 10:16	
Project:	CTO-08 / NCBC Gulfport-Navy	Sample Size:	0.287 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	20-Apr-2017 8:14				Date Analyzed:	28-Apr-17 16:43 Column: BEH C18			
Location:	Gulfpost / Residential								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.18	8.70	17.4		SUR 13C2-PFHxA	112	70 - 130	
PFOA	ND	3.72	8.70	17.4		SUR 13C2-PFDA	115	70 - 130	
PFOS	ND	1.71	8.70	17.4					

DL - Detection limit
 RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
 Results reported to DL.
 When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
 Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The associated compound concentration exceeded the calibration range of the instrument.
H	Recovery and/or RPD was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ.
M	Estimated Maximum Possible Concentration. (CA Region 2 projects only)
*	See Cover Letter
Conc.	Concentration
NA	Not applicable
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1175673
Nevada Division of Environmental Protection	CA004132017-1
New Hampshire Environmental Accreditation Program	207716
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	013
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	8621
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

CHAIN OF CUSTODY

For Laboratory Use Only
 Laboratory Project ID: 1700507 Temp: -0.7 °C
 Storage ID: WR-2 Storage Secured: Yes No

Project ID: NCBC Gulfport - Navy P.O.#: 100067106051 Sampler: M. Witmer
 (name)

TAT Standard: 21 days
 (check one): Rush (surcharge may apply)
 14 days 7 days Specify: _____

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Katie Rabe <u>Katie Tippin / CH2M</u>		<u>5701 Cleveland St.</u>	<u>Virginia Beach, VA</u>	<u>23462</u>	<u>(757) 671-6258</u>	
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time	
<u>Katie Rabe</u> <u>K. Rabe</u>	<u>4/21/2017</u>	<u>12:05</u>	<u>Beth Benedict</u> <u>B. Benedict</u>	<u>04/22/17</u>	<u>1031</u>	
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time	

SHIP TO: Vista Analytical Laboratory
 1104 Windfield Way
 El Dorado Hills, CA 95762
 (916) 673-1520 * Fax (916) 673-0106

Method of Shipment: FedEx

ATTN: Martha Maier

Tracking No.: 786316691150

Add Analysis(es) Requested			Container(s)														Comments	
Quantity	Type	Matrix	2378-TCDD	2378 TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378 TCDD/TCDF	PCDD/PCDF	TOTALS	COP/ANAR PCB's	209 CONGENERS	PBDE	PAH		WHO-29

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	2378-TCDD	2378 TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378 TCDD/TCDF	PCDD/PCDF	TOTALS	COP/ANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	Mod. EPA 537	Comments	
GP-RW01-0417	4/19/17	11:35	Gulfport/Residential	2	P/TE	DW																	X	
GP-FB01-0417	4/19/17	11:36	Gulfport/Residential	2	P/TE	DW																	X	
GP-RW02-0417	4/19/17	12:13	Gulfport/Residential	2	P/TE	DW																	X	
GP-FB02-0417	4/19/17	12:14	Gulfport/Residential	2	P/TE	DW																	X	
GP-RW03-0417	4/19/17	17:47	Gulfport/Residential	2	P/TE	DW																	X	
GP-FB03-0417	4/19/17	17:48	Gulfport/Residential	2	P/TE	DW																	X	
GP-RW04-0417	4/19/17	17:59	Gulfport/Residential	2	P/TE	DW																	X	
GP-FB04-0417	4/19/17	18:00	Gulfport/Residential	2	P/TE	DW																	X	
GP-RW05-0417	4/20/17	08:13	Gulfport/Residential	2	P/TE	DW																	X	
GP-FB05-0417	4/20/17	08:14	Gulfport/Residential	2	P/TE	DW																	X	

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:

Name: Katie Tippin
 Company: CH2M
 Address: 5701 Cleveland Street
 City: Virginia Beach State: VA Zip: 23462
 Phone: (757) 671-6258 Fax: _____
 Email: Katie.Tippin@CH2M.com

SAMPLE LOG-IN CHECKLIST



Vista Project #: 1700507 TAT 7

Samples Arrival:	Date/Time	Initials:	Location:
	04/22/17 1016	BBB	WR-2
Logged In:	Date/Time	Initials:	Location:
	04/22/17 1108	BBB	WR-2
Delivered By:	FedEx	UPS	On Trac
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preservation:	Ice	Blue Ice	Dry Ice
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temp °C:	0.0 (uncorrected)	Time: 1036	Thermometer ID: DT-3
Temp °C:	-0.7 (corrected)	Probe used: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

		YES	NO	NA
Adequate Sample Volume Received?		✓		
Holding Time Acceptable?		✓		
Shipping Container(s) Intact?		✓		
Shipping Custody Seals Intact?		✓		
Shipping Documentation Present?		✓		
Airbill	Trk # 7863 1669 1150	✓		
Sample Container Intact?		✓		
Sample Custody Seals Intact?				✓
Chain of Custody / Sample Documentation Present?		✓		
COC Anomaly/Sample Acceptance Form completed?			✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?		✓		
Preservation Documented:	Na ₂ S ₂ O ₃ Trizma	Yes	No	NA
Shipping Container	Vista Client Retain	Return	Dispose	

Comments:

April 29, 2017

Vista Work Order No. 1700507

Ms. Tiffany Hill
CH2M Hill
1100 NE Circle Blvd. Suite 300
Corvallis, OR 97330

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on April 22, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-08 / NCBC Gulfport-Navy'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,



Martha Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 1700507

Case Narrative

Sample Condition on Receipt:

Ten drinking water samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 537

The drinking water samples were extracted and analyzed for the UCMR list of six PFAS using EPA Method 537.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Laboratory Reagent Blank (LRB) was extracted and analyzed with the preparation batch. No analytes were detected in the LRB above 1/2 the LOQ. As requested, a Laboratory Fortified Blank (LFB) and Laboratory Fortified Blank Duplicate (LFBD) were extracted and analyzed, since insufficient sample volume was received to prepare a Laboratory Fortified Sample Matrix and Laboratory Fortified Sample Matrix Duplicate. The LFB/LFBD recoveries were within the method acceptance criteria of 50%-150% for the low spike.

The surrogate recoveries for all QC and field samples were within the acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1700507-01	GP-RW01-0417	19-Apr-17 11:35	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-02	GP-FB01-0417	19-Apr-17 11:36	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-03	GP-RW02-0417	19-Apr-17 12:13	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-04	GP-FB02-0417	19-Apr-17 12:14	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-05	GP-RW03-0417	19-Apr-17 17:47	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-06	GP-FB03-0417	19-Apr-17 17:48	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-07	GP-RW04-0417	19-Apr-17 17:59	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-08	GP-FB04-0417	19-Apr-17 18:00	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-09	GP-RW05-0417	20-Apr-17 08:13	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700507-10	GP-FB05-0417	20-Apr-17 08:14	22-Apr-17 10:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB						EPA Method 537			
Matrix: Drinking Water Sample Size: 0.250 L		QC Batch: B7D0117 Date Extracted: 24-Apr-2017 12:47		Lab Sample: B7D0117-BLK1 Date Analyzed: 28-Apr-17 14:38 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.51	10.0	20.0		SUR 13C2-PFHxA	106	70 - 130	
PFOA	ND	4.27	10.0	20.0		SUR 13C2-PFDA	109	70 - 130	
PFOS	ND	1.96	10.0	20.0					

DL - Detection limit
RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

LCS Results

EPA Method 537

Matrix: Drinking Water Sample Size: 0.250 L	QC Batch: B7D0117 Date Extracted: 24-Apr-2017 12:47	Lab Sample: B7D0117-BS1/B7D0117-BSD1 Date Analyzed: 28-Apr-17 14:01 Column: BEH C18 28-Apr-17 14:13 Column: BEH C18
------------------------------------------------	--------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------

Analyte	LCS-%R	LCSD-%R	RPD	Labeled Standard	LCS-%R	LCSD-%R
PFBS	87.7	85.3	2.71	SUR 13C2-PFHxA	100	96.3
PFOA	96.9	83.9	14.3	SUR 13C2-PFDA	117	108
PFOS	94.2	66.6	34.3			

LCL-UCL - Lower control limit - upper control limit

Sample ID: LCS Dup

EPA Method 537

Matrix: Drinking Water Sample Size: 0.250 L	QC Batch: B7D0117 Date Extracted: 24-Apr-2017 12:47	Lab Sample: B7D0117-BSD1 Date Analyzed: 28-Apr-17 14:13 Column: BEH C18					
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PFBS	7.54	8.84	85.3	70 - 130	SUR 13C2-PFHxA	96.3	70 - 130
PFOA	8.39	10.0	83.9	70 - 130	SUR 13C2-PFDA	108	70 - 130
PFOS	6.15	9.24	66.6	70 - 130			

LCL-UCL - Lower control limit - upper control limit

Sample ID: GP-RW01-0417**EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700507-01	Date Received:	22-Apr-2017 10:16	
Project:	CTO-08 / NCBC Gulfport-Navy	Sample Size:	0.276 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	19-Apr-2017 11:35				Date Analyzed:	28-Apr-17 14:51 Column: BEH C18			
Location:	Gulfpost / Residential								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.27	9.06	18.1		SUR 13C2-PFHxA	102	70 - 130	
PFOA	ND	3.87	9.06	18.1		SUR 13C2-PFDA	110	70 - 130	
PFOS	ND	1.78	9.06	18.1					

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

Sample ID: GP-FB01-0417

EPA Method 537

Client Data		Sample Data			Laboratory Data				
P ame:	Ck 2M k ill	Matrix:	DringinWR ater	Lab Sample:	1700507-02	Date v ecei6ed:	22-Apr-2017 10:1N		
j ru9ect:	CTO-08 / P CBC GHfpurt-P a6y	Sample Size:	0.288 L	QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47		
Date Collected:	13-Apr-2017 11:oN				Date Analyzed:	28-Apr-17 15:0o	CulHmn:	BEk	C18
Lucatiun:	GHfpust / v esidential								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
j FBS	PD	2.18	8.N8	17.4		SUv 1oC2-j Fk xA	100	70 - 1o0	
j FOA	PD	o.71	8.N8	17.4		SUv 1oC2-j FDA	10N	70 - 1o0	
j FOS	PD	1.70	8.N8	17.4					

DL - Detectiun limit
v L - v epurtinWimit

LCL-UCL - Luwer cuntrl limit - Hpper cuntrl limit
v esHts repurted tu DL.
R hen repurted, j FBS, j Fk xS, j FOA and j FOS inclHle both linear and branched isumers.
Only the linear isumer is repurted fur all uthr analytes.

Sample ID: GP-RW02-0417**EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700507-03	Date Received:	22-Apr-2017 10:16	
Project:	CTO-08 / NCBC Gulfport-Navy	Sample Size:	0.258 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	19-Apr-2017 12:13				Date Analyzed:	28-Apr-17 15:15 Column: BEH C18			
Location:	Gulfpost / Residential								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.44	9.71	19.4		SUR 13C2-PFHxA	85.2	70 - 130	
PFOA	ND	4.15	9.71	19.4		SUR 13C2-PFDA	83.4	70 - 130	
PFOS	ND	1.90	9.71	19.4					

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

Sample ID: GP-FB02-0417

EPA Method 537

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700507-04	Date Received:	22-Apr-2017 10:16	
Project:	C3T-08 ONCBC / ulport-Navy	Sample Size:	0f286 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	19-Apr-2017 12:14				Date Analyzed:	28-Apr-17 15:28 Column: BEH C18			
Location:	/ ulport RE. idential								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
Ps BS	ND	2f20	8f75	17f5		SUR 1FC2-Ps HxA	97fF	70 - 1F0	
Ps TA	ND	Ff74	8f75	17f5		SUR 1FC2-Ps DA	104	70 - 1F0	
Ps TS	ND	1f71	8f75	17f5					

DL - Detection limit
 RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
 Re. ult. reported to DLf
 When reported, Ps BS, Ps HxS, Ps TA and Ps TS include both linear and branched i. omer. f
 Tnly the linear i. omer i. reported for all other analyte. f

Sample ID: GP-RW03-0147

EPA Method 537

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700507-05	Date Received:	22-Apr-2017 10:16	
Project:	C3T-08 ONCBC / ulport-Navy	Sample Size:	0.27 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	19-Apr-2017 17:47				Date Analyzed:	28-Apr-17 15:40 Column: BEH C18			
Location:	/ ulpost Residential								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.0	9.7	18.		SUR 1. C2-PFHxA	101	70 - 1.0	
PFTA	ND	.92	9.7	18.		SUR 1. C2-PFDA	109	70 - 1.0	
PFTS	ND	180	9.7	18.					

DL - Detection limit
 RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
 Results reported to DL
 When reported, PFBS, PFHxS, PFTA and PFTS include both linear and branched isomers
 Only the linear isomer is reported for all other analytes

Sample ID: GP-FB03-0147

EPA Method 537

Client Data			Sample Data			Laboratory Data				
Name:	CH2M Hill		Matrix:	Drinking Water		Lab Sample:	1700507-06	Date Received:	22-Apr-2017 10:16	
Project:	C3T-08 ONCBC / ulport-Navy		Sample Size:	0f297 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	19-Apr-2017 17:48					Date Analyzed:	28-Apr-17 15:54		Column: BEH C18	
Location:	/ ulport Residential									

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
Ps BS	ND	2f12	8f4F	16f9		SUR 1FC2-Ps HxA	107	70 - 1F0	
Ps TA	ND	Ff60	8f4F	16f9		SUR 1FC2-Ps DA	114	70 - 1F0	
Ps TS	ND	1f65	8f4F	16f9					

DL - Detection limit
 RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
 Re. ult. reported to DLf
 When reported, Ps BS, Ps HxS, Ps TA and Ps TS include both linear and branched i.omer. f
 Tnly the linear i.omer i. reported @r all other analyte. f

Sample ID: GP-RW01-0147

EPA Method 537

Client Data		Sample Data		Laboratory Data			
6 ame:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1700907-07	Date Received:	22-Apr-2017 10:15
NoRect:	C3T-08 O6 CBC / ulport-6 avy	Sample Size:	0f280 L	QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47
Date Collected:	1j -Apr-2017 17:9j			Date Analyzed:	28-Apr-17 15:05	Column:	BEH C18
Location:	/ ulpo. t ORe. idential						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
Ns BS	6 D	2f24	8fj F	17fj		SUR 1FC2-Ns HxA	10F	70 - 1F0	
Ns TA	6 D	Ff81	8fj F	17fj		SUR 1FC2-Ns DA	107	70 - 1F0	
Ns TS	6 D	1f79	8fj F	17fj					

DL - Detection limit
RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
Re. ult. reported to DLf
When reported, Ns BS, Ns HxA, Ns TA and Ns TS include both linear and branched i. omer. f
Tnly the linear i. omer i. reported for all other analyte. f

Sample ID: GP-FB01-0147

EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	Ck 2M k ill	Matrix:	DringinWR ater	Lab Sample:	1700f07-08	Date v ecei6ed:	22-Apr-2017 10:15
Prject:	C93 -08 TNCBC OH/purt-Na6y	Sample Size:	0Qo4 L	QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47
Date Collected:	1o-Apr-2017 18:00			Date Analyzed:	28-Apr-17 15:1o	CulHmn:	BEk C18
Lucatium:	OH/pu. t Tv e. idential						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
Ps BS	ND	2GF	8Qo	17Q		SUv 1FC2-Ps k xA	o1Q	70 - 1F0	
Ps 3 A	ND	FGF	8Qo	17Q		SUv 1FC2-Ps DA	105	70 - 1F0	
Ps 3 S	ND	1G5	8Qo	17Q					

DL - Detectiun limit
v L - v eputinWimit

LCL-UCL - Luwer cuntrl limit - Hpper cuntrl limit
v e. Ht. repurted tu DLG
R hen repurted, Ps BS, Ps k xS, Ps 3 A and Ps 3 S inclHle both linear and branched i. umer. G
3 nly the linear i. umer i. repurted /ur all uther analyte. G

Sample ID: GP-RW05-0147

EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	Ck 2M k ill	Matrix:	DringinWR ater	Lab Sample:	1700f07-0.	Date v ecei6ed:	22-Apr-2017 10:15
Prujet:	C93 -08 TNCBC OH/purt-Na6y	Sample Size:	0Q72 L	QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47
Date Collected:	20-Apr-2017 8:1o			Date Analyzed:	28-Apr-17 15:o1	CulHmn:	BEk C18
Lucatiun:	OH/pust Tv esidential						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2G1	. Q0	18G		SUv 1oC2-PFk xA	117	70 - 1o0	
PF3 A	ND	oGo	. Q0	18G		SUv 1oC2-PFDA	117	70 - 1o0	
PF3 S	ND	1G0	. Q0	18G					

DL - Detectiun limit
v L - v epurtinWimit

LCL-UCL - Luwer cuntrl limit - Hpper cuntrl limit
v esHts repurted tu DLG
R hen repurted, PFBS, PFk xS, PF3 A and PF3 S inclHle both linear and branched isumersG
3 nly the linear isumer is repurted /ur all uther analytesG

Sample ID: GP-FB05-0147**EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700507-10	Date Received:	22-Apr-2017 10:16	
Project:	CTO-08 / NCBC Gulfport-Navy	Sample Size:	0.287 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	20-Apr-2017 8:14	Date Analyzed: 28-Apr-17 16:43 Column: BEH C18							
Location:	Gulfpost / Residential								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.18	8.70	17.4		SUR 13C2-PFHxA	112	70 - 130	
PFOA	ND	3.72	8.70	17.4		SUR 13C2-PFDA	115	70 - 130	
PFOS	ND	1.71	8.70	17.4					

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The associated compound concentration exceeded the calibration range of the instrument.
H	Recovery and/or RPD was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ.
M	Estimated Maximum Possible Concentration. (CA Region 2 projects only)
*	See Cover Letter
Conc.	Concentration
NA	Not applicable
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1175673
Nevada Division of Environmental Protection	CA004132017-1
New Hampshire Environmental Accreditation Program	207716
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	013
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	8621
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

CHAIN OF CUSTODY

For Laboratory Use Only
 Laboratory Project ID: 1700507 Temp: -0.7 °C
 Storage ID: WR-2 Storage Secured: Yes No

Project ID: NCBC Gulfport - Navy P.O.#: 100067106051 Sampler: M. Witmer (name)

TAT Standard: 21 days
 (check one): Rush (surcharge may apply)
 14 days 7 days Specify: _____

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Katie Rabe <u>Katie Tippin / CH2M</u>		<u>5701 Cleveland St.</u>	<u>Virginia Beach, VA</u>	<u>23462</u>	<u>(757) 671-6258</u>	
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time	
<u>Katie Rabe</u> <u>K. Rabe</u>	<u>4/21/2017</u>	<u>12:05</u>	<u>Beth Benedict</u> <u>B. Benedict</u>	<u>04/22/17</u>	<u>1031</u>	
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time	

SHIP TO: Vista Analytical Laboratory
 1104 Windfield Way
 El Dorado Hills, CA 95762
 (916) 673-1520 * Fax (916) 673-0106

Method of Shipment: FedEx

ATTN: Martha Maier

Tracking No.: 786316691150

Add Analysis(es) Requested			Container(s)														Comments	
Quantity	Type	Matrix	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	TOTALS	COP/ANAR PCB's	209 CONGENERS	PBDE	PAH		WHO-29

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	TOTALS	COP/ANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	Mod. EPA 537	Comments		
GP-RW01-0417	4/19/17	11:35	Gulfport/Residential	2	P/TE	DW														X		
GP-FB01-0417	4/19/17	11:36	Gulfport/Residential	2	P/TE	DW															X	
GP-RW02-0417	4/19/17	12:13	Gulfport/Residential	2	P/TE	DW															X	
GP-FB02-0417	4/19/17	12:14	Gulfport/Residential	2	P/TE	DW															X	
GP-RW03-0417	4/19/17	17:47	Gulfport/Residential	2	P/TE	DW															X	
GP-FB03-0417	4/19/17	17:48	Gulfport/Residential	2	P/TE	DW															X	
GP-RW04-0417	4/19/17	17:59	Gulfport/Residential	2	P/TE	DW															X	
GP-FB04-0417	4/19/17	18:00	Gulfport/Residential	2	P/TE	DW															X	
GP-RW05-0417	4/20/17	08:13	Gulfport/Residential	2	P/TE	DW															X	
GP-FB05-0417	4/20/17	08:14	Gulfport/Residential	2	P/TE	DW															X	

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:

Name: Katie Tippin
 Company: CH2M
 Address: 5701 Cleveland Street
 City: Virginia Beach State: VA Zip: 23462
 Phone: (757) 671-6258 Fax: _____
 Email: Katie.Tippin@CH2M.com

SAMPLE LOG-IN CHECKLIST



Vista Project #: 1700507 TAT 7

Samples Arrival:	Date/Time	Initials:	Location:
	04/22/17 1016	BBB	WR-2
Logged In:	Date/Time	Initials:	Location:
	04/22/17 1108	BBB	WR-2
Delivered By:	FedEx	UPS	On Trac
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preservation:	Ice	Blue Ice	Dry Ice
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temp °C:	0.0 (uncorrected)	Time: 1036	Thermometer ID: DT-3
Temp °C:	-0.7 (corrected)	Probe used: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

		YES	NO	NA
Adequate Sample Volume Received?		✓		
Holding Time Acceptable?		✓		
Shipping Container(s) Intact?		✓		
Shipping Custody Seals Intact?		✓		
Shipping Documentation Present?		✓		
Airbill	Trk # 7863 1669 1150	✓		
Sample Container Intact?		✓		
Sample Custody Seals Intact?				✓
Chain of Custody / Sample Documentation Present?		✓		
COC Anomaly/Sample Acceptance Form completed?			✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?		✓		
Preservation Documented:	Na ₂ S ₂ O ₃ Trizma	Yes	No	NA
Shipping Container	Vista Client Retain	Return	Dispose	

Comments:

EXTRACTION INFORMATION

Process Sheet
Workorder: 1700507



Prep Expiration: 2017-May-03
Client: CH2M Hill

Workorder Due: 29-Apr-17 00:00

TAT: 7

Method: 537 PFAS DW DoD Unmodified
Matrix: Drinking Water

Prep Batch: B7D0117

Prep Data Entered: 4/26/17 HC
Date and Initials

Version: PFOA, PFOS, & PFBS

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700507-01	<input checked="" type="checkbox"/>	GP-RW01-0417	22-Apr-17 10:16	WR-2 F-4	
1700507-02	<input checked="" type="checkbox"/>	GP-FB01-0417	22-Apr-17 10:16	WR-2 F-4	
1700507-03	<input checked="" type="checkbox"/>	GP-RW02-0417	22-Apr-17 10:16	WR-2 F-4	
1700507-04	<input checked="" type="checkbox"/>	GP-FB02-0417	22-Apr-17 10:16	WR-2 F-4	
1700507-05	<input checked="" type="checkbox"/>	GP-RW03-0417	22-Apr-17 10:16	WR-2 F-4	
1700507-06	<input checked="" type="checkbox"/>	GP-FB03-0417	22-Apr-17 10:16	WR-2 F-4	
1700507-07	<input checked="" type="checkbox"/>	GP-RW04-0417	22-Apr-17 10:16	WR-2 F-4	
1700507-08	<input checked="" type="checkbox"/>	GP-FB04-0417	22-Apr-17 10:16	WR-2 F-4	
1700507-09	<input checked="" type="checkbox"/>	GP-RW05-0417	22-Apr-17 10:16	WR-2 F-4	
1700507-10	<input checked="" type="checkbox"/>	GP-FB05-0417	22-Apr-17 10:16	WR-2 F-4	

Include LCS/LOSD.

Vista PM: Martha Maier

Vial Box ID: (Tony) Nighthawk

Sample Reconciled By: Chelan CA 4/24/17

Percent Solids



Project: B7DØ117

Balance ID: HRMS-8

Sample ID	Chemist: <u>N/A</u> Date: <u> </u> Time: <u> </u>		Chemist: <u>N/A</u> Date: <u> </u> Time: <u> </u>		Chemist/Date <u>CC 4/24/17</u>		
	Boat Wt.	Sample + Boat Wt.	Residue + Boat Wt.	pH before	pH* after	CF	
1700507-01				7	NA	Ø	
-02				7		Ø	
-03				7		Ø	
-04				7		Ø	
-05				7		Ø	
-06				7		Ø	
-07				7		Ø	
-08				7		Ø	
-09				7		Ø	
-10				7	↓	Ø	
CC 4/24/17							

- Procedure:**
- Tare the balance.
 - Record Boat Weight.
 - Add 2 - 10 g of sample.
 - Record Wet Wt. + Boat Wt.
 - Dry in oven overnight at 107°C.
 - Tare the balance.
 - Record Residue + Boat Wt.

- Notes:**
- Methods 8280, 613, 1613, 8290, 1614 - pH < 9
 - Methods 1668/PCN - pH 2-3
 - NCASI 551 - pH 1

Batch: B7D0117

Matrix: Drinking Water

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1700507-01	0.27592	N/A	N/A	1000	24-Apr-17 12:47	GM			Drinking Water	537 PFAS DW DoD Unmoc
1700507-02	0.2881			1000	24-Apr-17 12:47	GM			Drinking Water	537 PFAS DW DoD Unmoc
1700507-03	0.25752			1000	24-Apr-17 12:47	GM			Drinking Water	537 PFAS DW DoD Unmoc
1700507-04	0.28576			1000	24-Apr-17 12:47	GM			Drinking Water	537 PFAS DW DoD Unmoc
1700507-05	0.27258			1000	24-Apr-17 12:47	GM			Drinking Water	537 PFAS DW DoD Unmoc
1700507-06	0.2966			1000	24-Apr-17 12:47	GM			Drinking Water	537 PFAS DW DoD Unmoc
1700507-07	0.28009			1000	24-Apr-17 12:47	GM			Drinking Water	537 PFAS DW DoD Unmoc
1700507-08	0.29432			1000	24-Apr-17 12:47	GM			Drinking Water	537 PFAS DW DoD Unmoc
1700507-09	0.27182			1000	24-Apr-17 12:47	GM			Drinking Water	537 PFAS DW DoD Unmoc
1700507-10	0.2872			1000	24-Apr-17 12:47	GM			Drinking Water	537 PFAS DW DoD Unmoc
B7D0117-BLK1	0.25			1000	24-Apr-17 12:47	GM				QC
B7D0117-BS1	0.25			1000	24-Apr-17 12:47	GM	17D1901	10	✓	QC
B7D0117-BSD1	0.25			1000	24-Apr-17 12:47	BAP	17D1901	10	✓	QC

JK
4/26/17

PREPARATION BENCH SHEET

Matrix: Drinking Water

Method: 537 PFAS DW DoD Unmodified

B7D0117

Chemist: BP

Prep Date/Time: 24-Apr-17 12:47

Prepared using: LCMS - SPE Extraction-LCMS

C	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	✓	SS	C7D0117	IS
						X/NS CHEM/WIT DATE	SPE	R/S CHEM/WIT DATE
<input type="checkbox"/>	B7D0117-BLK1	NA	NA	(0.250)	✓	BP 7/2 4.25.17	BP 4.25.17	BP 4/25/17
<input type="checkbox"/>	B7D0117-BS1	↓	↓	↓	✓			BP 4/25/17
<input type="checkbox"/>	1700507-01	302.38	26.46	0.27592	✓			
<input type="checkbox"/>	1700507-02	314.94	26.84	0.2881	✓			
<input type="checkbox"/>	1700507-03	284.27	26.25	0.25752	✓			
<input type="checkbox"/>	1700507-04	313.64	27.88	0.28576	✓			
<input type="checkbox"/>	1700507-05	299.85	27.27	0.27258	✓			
<input type="checkbox"/>	1700507-06	322.64	26.04	0.2966	✓			
<input type="checkbox"/>	1700507-07	307.90	27.81	0.28009	✓			
<input type="checkbox"/>	1700507-08	321.41	27.09	0.29432	✓			
<input type="checkbox"/>	1700507-09	298.61	26.79	0.27182	✓			
<input type="checkbox"/>	1700507-10	314.23	27.03	0.2872	✓			

ⓐ 0.625g Trizma added to QCs BP 4.25.17

SS Name 17D1901, 10ul 17D1704, 10ul (V4)	NS Name 17D1901, 10ul	IS Name 17D1706, 50ul (V4)	SPE Chem: strata X 33um 500mg/6mL Ele SOLV: MeOH Final Volume(s) 1mL	Check Out: BP 4.25.17 Chemist/Date: Check In: NA Chemist/Date: Balance ID: HPMS-8
-----------------------------------------------------------------	--------------------------	-------------------------------------	----------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------

Comments: Assume 1 g = 1 mL

PREPARATION BENCH SHEET

Matrix: Drinking Water

Method: 537 PFAS DW DoD Unmodified

B7D0117

Chemist: BP

Prep Date/Time: 24-Apr-17 12:47

Prepared using: LCMS - SPE Extraction-LCMS

C	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	^{SS} IS /NS CHEM/WIT DATE	SPE	^{IS} BS CHEM/WIT DATE
<input type="checkbox"/>	B7D0117-BLK1						
<input type="checkbox"/>	B7D0117-BS1						
<input type="checkbox"/>	B7D0117-BSD1 (A)	NA	NA	(0.250)	BP HC 4.25.17	BP HC 4.25.17	BP QM 4.25.17
<input type="checkbox"/>	1700507-01						
<input type="checkbox"/>	1700507-02						
<input type="checkbox"/>	1700507-03						
<input type="checkbox"/>	1700507-04						
<input type="checkbox"/>	1700507-05						
<input type="checkbox"/>	1700507-06						
<input type="checkbox"/>	1700507-07						
<input type="checkbox"/>	1700507-08						
<input type="checkbox"/>	1700507-09						
<input type="checkbox"/>	1700507-10						

BP 4.25.17
BP 4.25.17

BP 4.25.17

(A) 0.625g TriZma added to QCs BP 4.25.17

^{SS} IS Name 1701704 1701901, 50uL BP 4.25.17 (VH)	NS Name 17D1901, 10uL	^{IS} BS Name 17D1706, 50uL (VH)	SPE Chem: <u>strata X 33 um 50um/6mL</u> Ele SOLV: <u>MeOH</u> Final Volume(s) <u>1 mL</u>	Check Out: <u>NA</u> Chemist/Date: <u>↓</u> Check In: <u>↓</u> Chemist/Date: <u>↓</u> Balance ID: <u>↓</u>
----------------------------------------------------------------------------	--------------------------	---------------------------------------------------	--------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------

Comments: Assume 1 g = 1 mL

SAMPLE DATA –EPA METHOD 537

Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-17.qld

Last Altered: Friday, April 28, 2017 15:41:55 Pacific Daylight Time

Printed: Saturday, April 29, 2017 09:32:57 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: B7D0117-BLK1 LRB 0.25, Description: LRB, Name: 170428G1_17, Date: 28-Apr-2017, Time: 14:38:43

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.041e4		0.250			
2	4 PFOA	413 > 368.7	1.188e1	7.335e3		0.250	4.17	0.0774	
3	5 PFOS	499 >79.9		1.041e4		0.250			
4	7 13C2-PFHxA	315.0 > 269.8	3.138e3	7.335e3	0.405	0.250	3.25	42.3	106
5	8 13C2-PFDA	515.1>469.9	5.020e3	7.335e3	0.629	0.250	4.81	43.5	109
6	9 13C2-PFOA	414.9 > 369.7	7.335e3	7.335e3	1.000	0.250	4.16	40.0	100
7	10 13C4-PFOS	503.0 > 79.9	1.041e4	1.041e4	1.000	0.250	4.58	115	100

Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-17.qld

Last Altered: Friday, April 28, 2017 15:41:55 Pacific Daylight Time

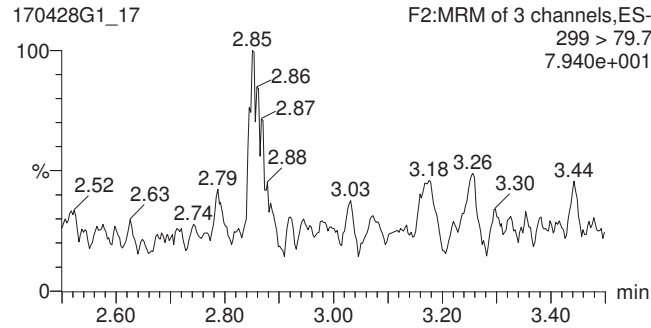
Printed: Saturday, April 29, 2017 09:32:57 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

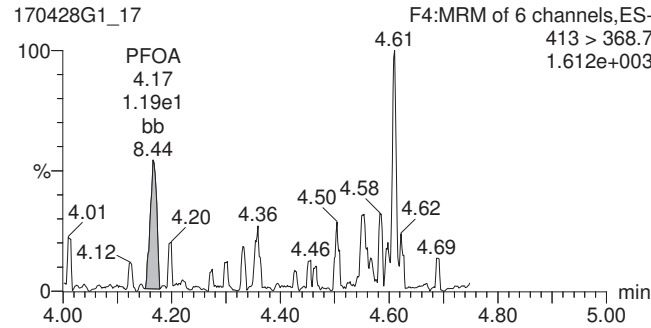
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: B7D0117-BLK1 LRB 0.25, Description: LRB, Name: 170428G1_17, Date: 28-Apr-2017, Time: 14:38:43, Instrument: , Lab: , User:

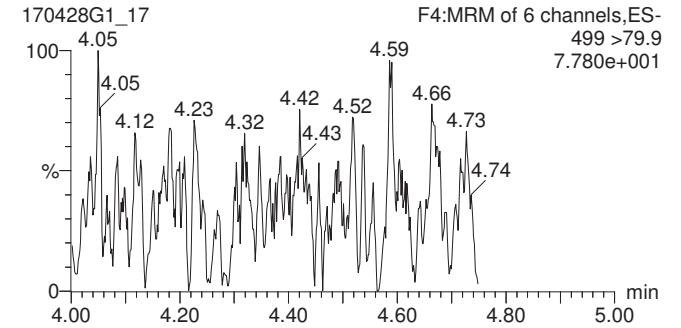
PFBS



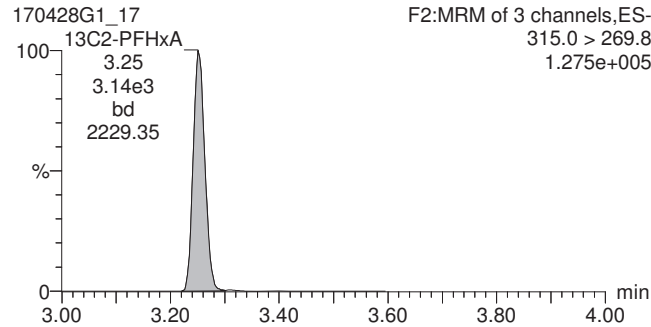
PFOA



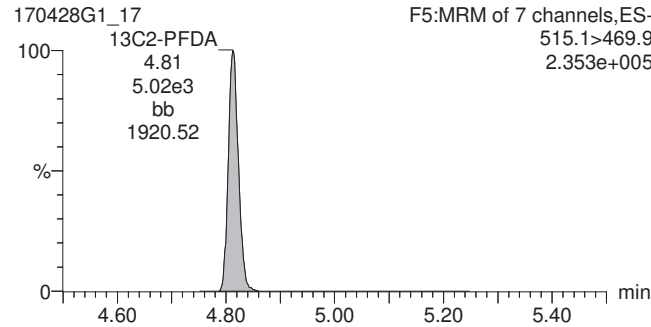
PFOS



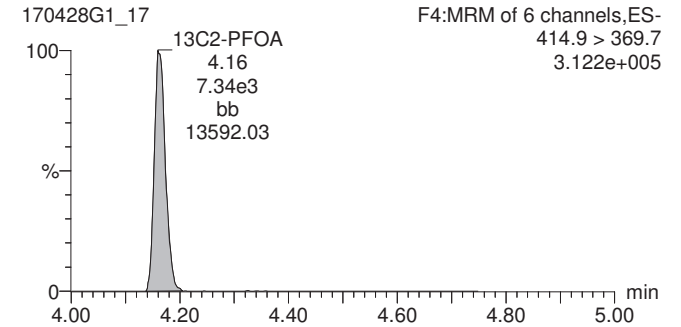
13C2-PFHxA



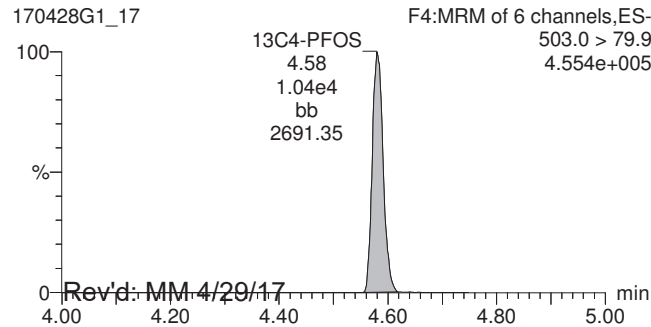
13C2-PFDA



13C2-PFOA



13C4-PFOS



Rev'd: MM 4/20/17

Work Order 1700507

AC 4/29/17

Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-14.qld

Last Altered: Friday, April 28, 2017 15:30:24 Pacific Daylight Time

Printed: Saturday, April 29, 2017 09:29:50 Pacific Daylight Time

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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: B7D0117-BS1 LFB 0.25, Description: LFB, Name: 170428G1_14, Date: 28-Apr-2017, Time: 14:01:31

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	7.581e2	1.065e4		0.250	2.85	7.75	87.7
2	4 PFOA	413 > 368.7	1.578e3	7.827e3		0.250	4.16	9.69	96.9
3	5 PFOS	499 >79.9	3.041e2	1.065e4		0.250	4.58	8.70	93.8
4	7 13C2-PFHxA	315.0 > 269.8	3.176e3	7.827e3	0.405	0.250	3.25	40.1	100
5	8 13C2-PFDA	515.1>469.9	5.771e3	7.827e3	0.629	0.250	4.81	46.9	117
6	9 13C2-PFOA	414.9 > 369.7	7.827e3	7.827e3	1.000	0.250	4.16	40.0	100
7	10 13C4-PFOS	503.0 > 79.9	1.065e4	1.065e4	1.000	0.250	4.58	115	100

Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-14.qld

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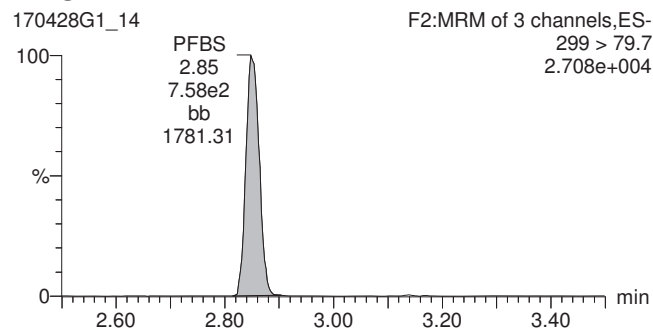
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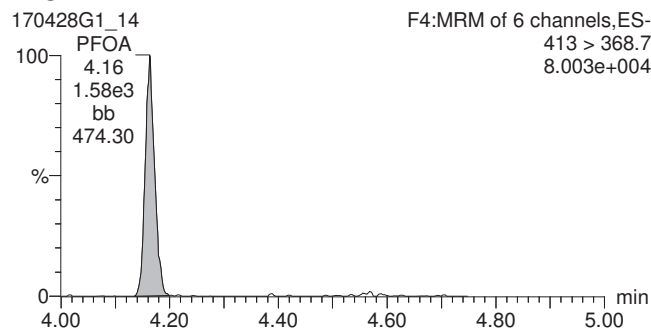
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: B7D0117-BS1 LFB 0.25, Description: LFB, Name: 170428G1_14, Date: 28-Apr-2017, Time: 14:01:31, Instrument: , Lab: , User:

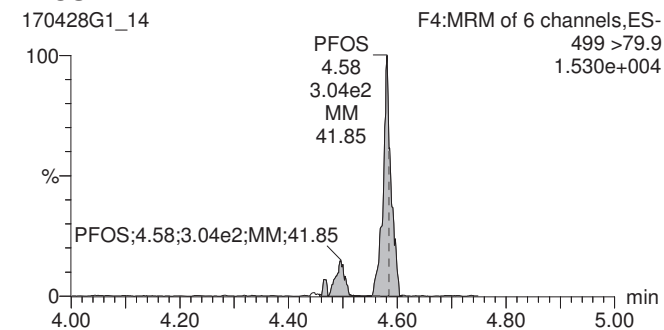
PFBS



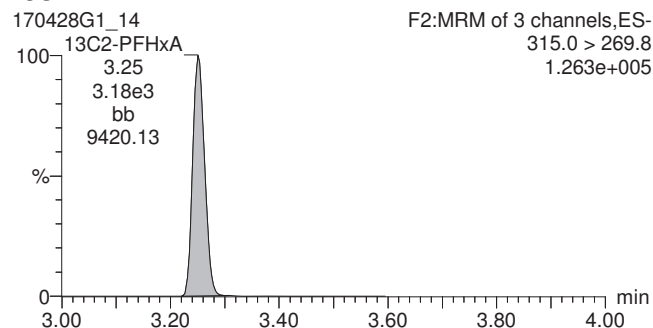
PFOA



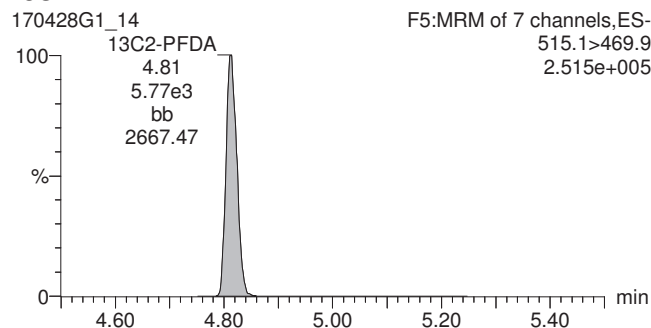
PFOS



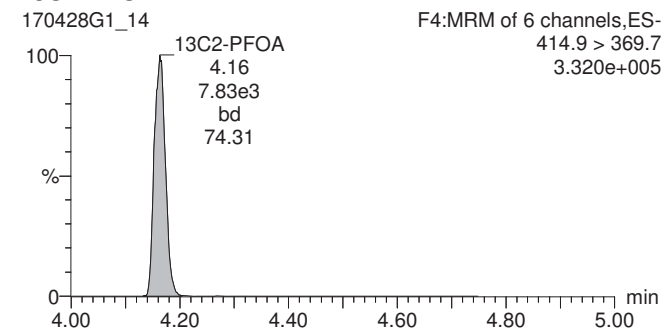
13C2-PFHxA



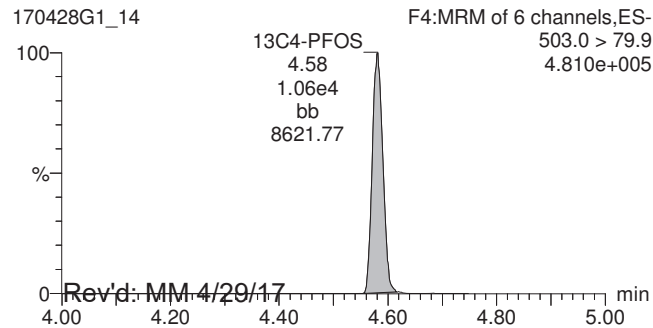
13C2-PFDA



13C2-PFOA



13C4-PFOS



Rev'd: MM 4/20/17

Work Order 1700507

AC 4/29/17

Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-15.qld

Last Altered: Saturday, April 29, 2017 09:31:21 Pacific Daylight Time

Printed: Saturday, April 29, 2017 09:31:40 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: B7D0117-BSD1 LCS Dup 0.25, Description: LCS Dup, Name: 170428G1_15, Date: 28-Apr-2017, Time: 14:13:54

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	7.414e2	1.070e4		0.250	2.85	7.54	85.3
2	4 PFOA	413 > 368.7	1.392e3	7.963e3		0.250	4.16	8.39	83.9
3	5 PFOS	499 >79.9	2.163e2	1.070e4		0.250	4.58	6.15	66.3
4	7 13C2-PFHxA	315.0 > 269.8	3.103e3	7.963e3	0.405	0.250	3.25	38.5	96.3
5	8 13C2-PFDA	515.1>469.9	5.414e3	7.963e3	0.629	0.250	4.81	43.3	108
6	9 13C2-PFOA	414.9 > 369.7	7.963e3	7.963e3	1.000	0.250	4.16	40.0	100
7	10 13C4-PFOS	503.0 > 79.9	1.070e4	1.070e4	1.000	0.250	4.58	115	100

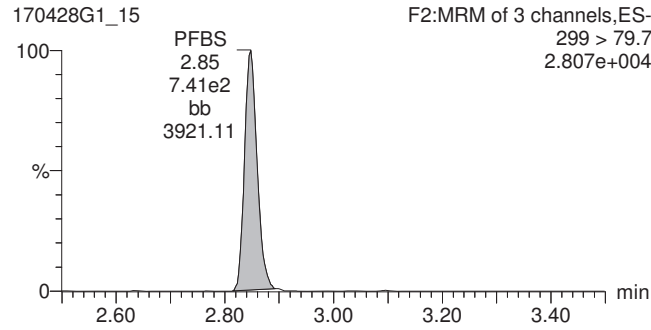
Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-15.qld

Last Altered: Saturday, April 29, 2017 09:31:21 Pacific Daylight Time
Printed: Saturday, April 29, 2017 09:31:40 Pacific Daylight Time

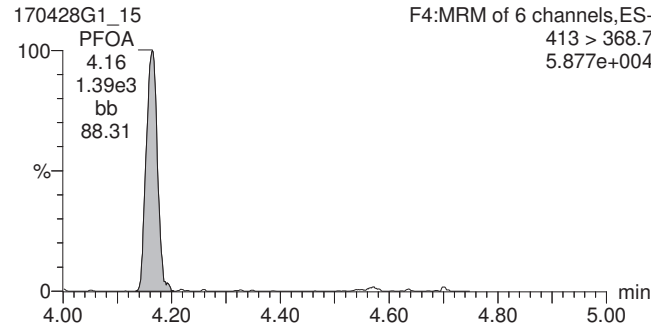
Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: B7D0117-BSD1 LCS Dup 0.25, Description: LCS Dup, Name: 170428G1_15, Date: 28-Apr-2017, Time: 14:13:54, Instrument: , Lab: , User:

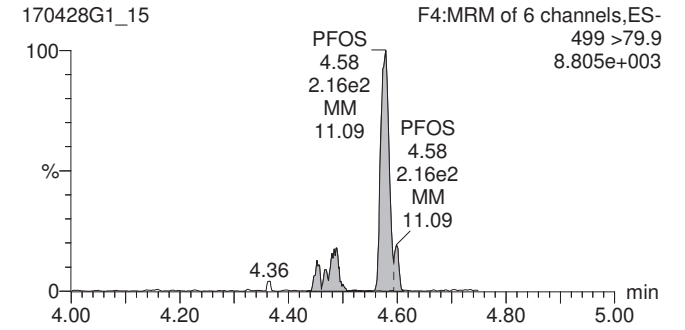
PFBS



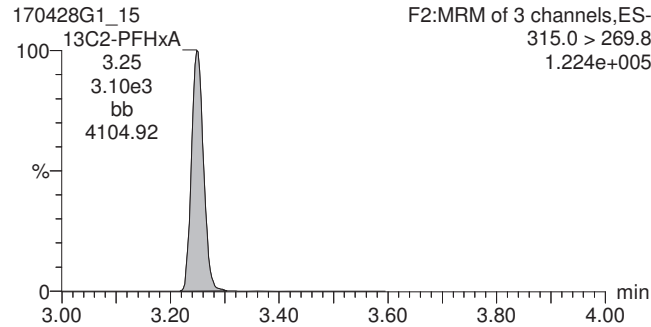
PFOA



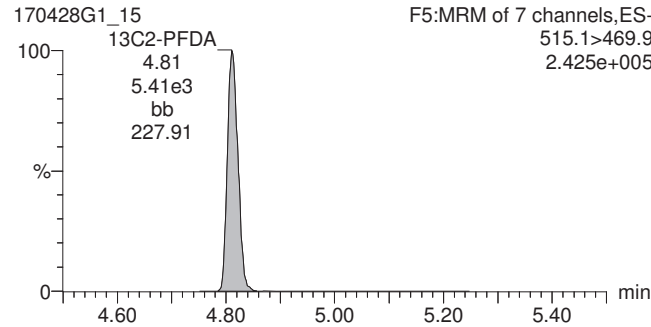
PFOS



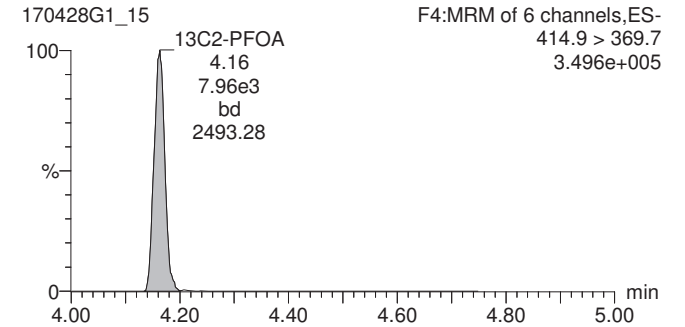
13C2-PFHxA



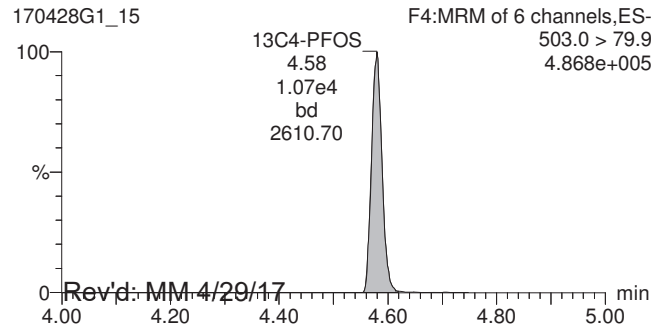
13C2-PFDA



13C2-PFOA



13C4-PFOS



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Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-18.qld

Last Altered: Saturday, April 29, 2017 09:34:08 Pacific Daylight Time

Printed: Saturday, April 29, 2017 09:34:46 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-01 GP-RW01-0417 0.27592, Description: GP-RW01-0417, Name: 170428G1_18, Date: 28-Apr-2017, Time: 14:51:07

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.409e3		0.276			
2	4 PFOA	413 > 368.7	3.049e1	6.945e3		0.276	4.16	0.190	
3	5 PFOS	499 > 79.9		9.409e3		0.276			
4	7 13C2-PFHxA	315.0 > 269.8	2.861e3	6.945e3	0.405	0.276	3.25	36.9	102
5	8 13C2-PFDA	515.1 > 469.9	4.821e3	6.945e3	0.629	0.276	4.81	40.0	110
6	9 13C2-PFOA	414.9 > 369.7	6.945e3	6.945e3	1.000	0.276	4.16	36.2	100
7	10 13C4-PFOS	503.0 > 79.9	9.409e3	9.409e3	1.000	0.276	4.58	104	100

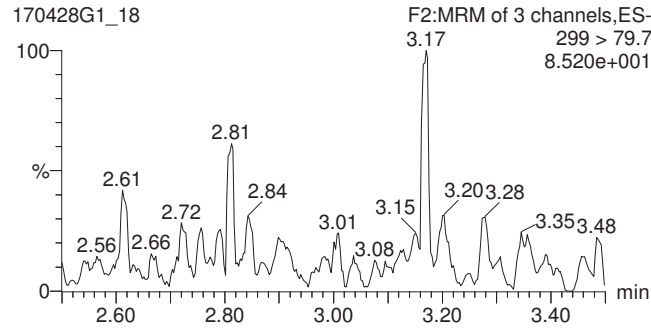
Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-18.qld

Last Altered: Saturday, April 29, 2017 09:34:08 Pacific Daylight Time
Printed: Saturday, April 29, 2017 09:34:46 Pacific Daylight Time

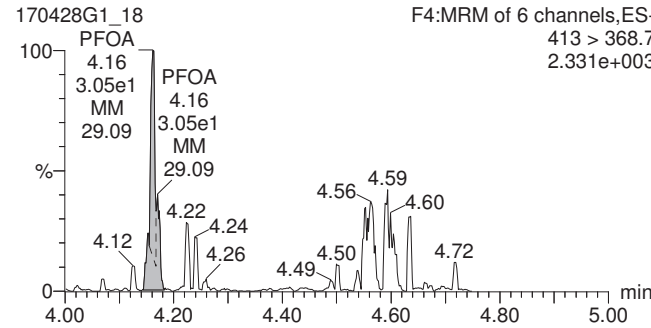
Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-01 GP-RW01-0417 0.27592, Description: GP-RW01-0417, Name: 170428G1_18, Date: 28-Apr-2017, Time: 14:51:07, Instrument: , Lab: , User:

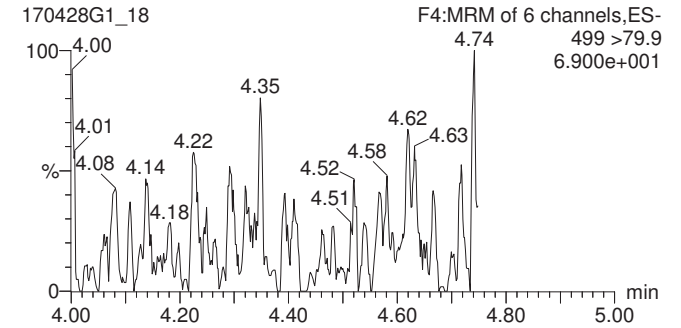
PFBS



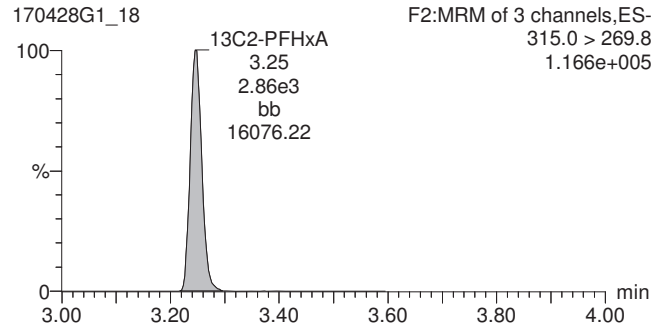
PFOA



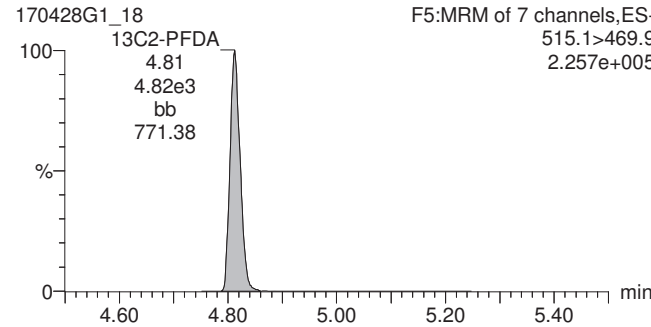
PFOS



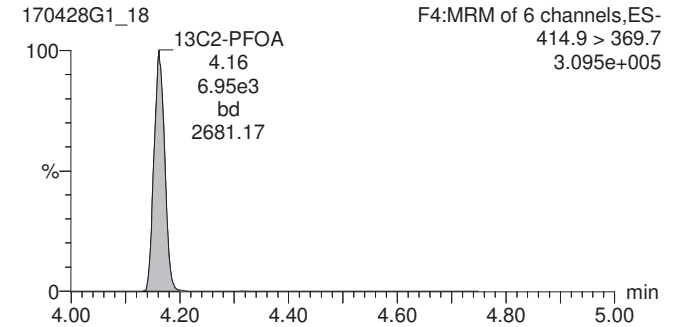
13C2-PFHxA



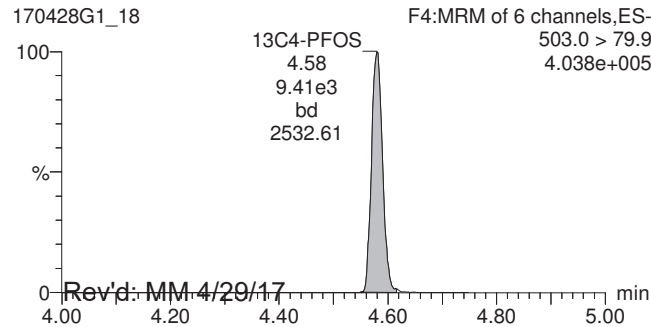
13C2-PFDA



13C2-PFOA



13C4-PFOS



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Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-19.qld

Last Altered: Saturday, April 29, 2017 09:37:49 Pacific Daylight Time

Printed: Saturday, April 29, 2017 09:38:09 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-02 GP-FB01-0417 0.2881, Description: GP-FB01-0417, Name: 170428G1_19, Date: 28-Apr-2017, Time: 15:03:33

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.033e4		0.288			
2	4 PFOA	413 > 368.7	3.195e1	7.497e3		0.288	4.17	0.177	
3	5 PFOS	499 >79.9		1.033e4		0.288			
4	7 13C2-PFHxA	315.0 > 269.8	3.035e3	7.497e3	0.405	0.288	3.25	34.7	100
5	8 13C2-PFDA	515.1>469.9	5.003e3	7.497e3	0.629	0.288	4.82	36.8	106
6	9 13C2-PFOA	414.9 > 369.7	7.497e3	7.497e3	1.000	0.288	4.17	34.7	100
7	10 13C4-PFOS	503.0 > 79.9	1.033e4	1.033e4	1.000	0.288	4.58	99.6	100

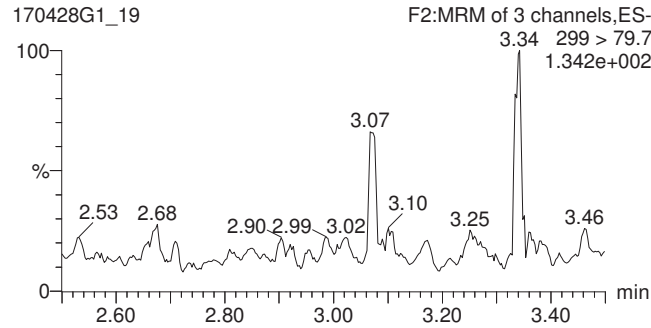
Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-19.qld

Last Altered: Saturday, April 29, 2017 09:37:49 Pacific Daylight Time
Printed: Saturday, April 29, 2017 09:38:09 Pacific Daylight Time

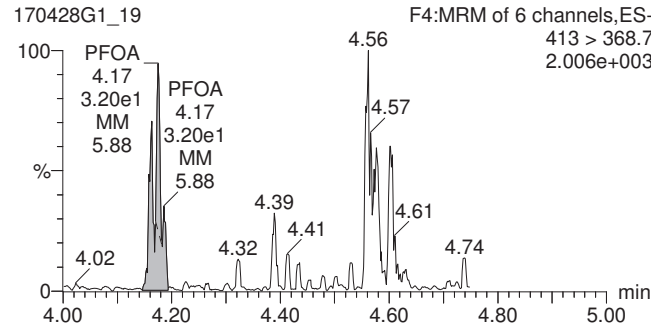
Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-02 GP-FB01-0417 0.2881, Description: GP-FB01-0417, Name: 170428G1_19, Date: 28-Apr-2017, Time: 15:03:33, Instrument: , Lab: , User:

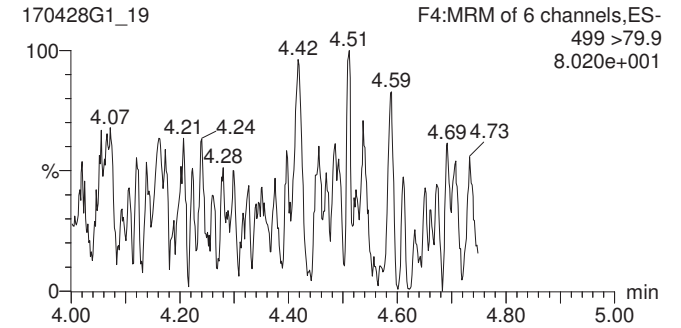
PFBS



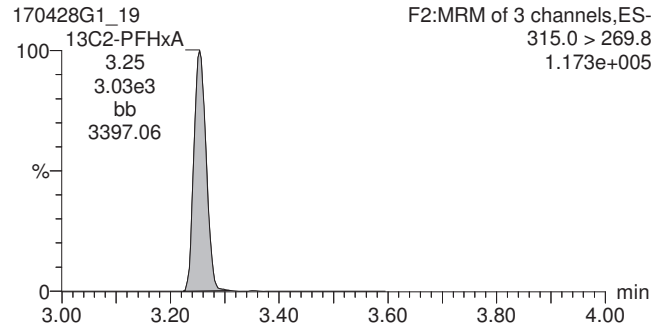
PFOA



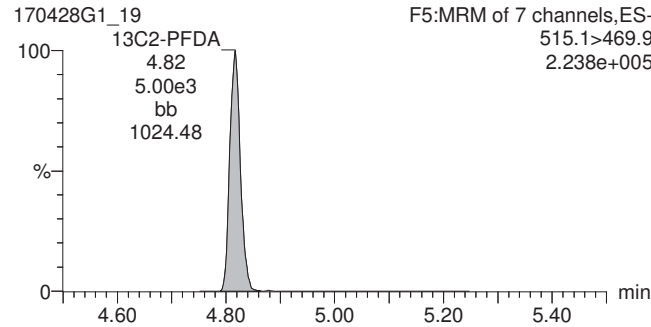
PFOS



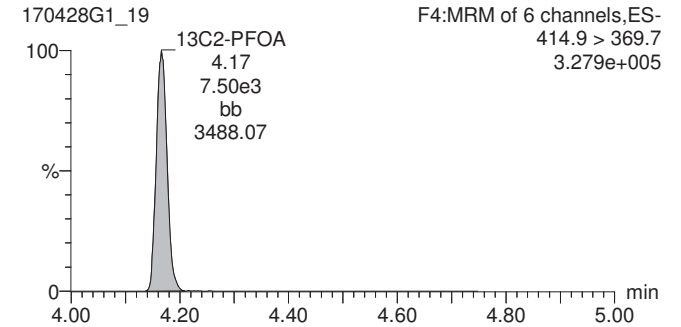
13C2-PFHxA



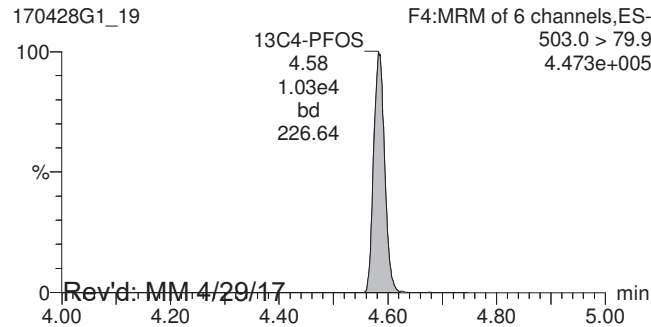
13C2-PFDA



13C2-PFOA



13C4-PFOS



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Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-20.qld

Last Altered: Saturday, April 29, 2017 09:39:10 Pacific Daylight Time

Printed: Saturday, April 29, 2017 09:39:32 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-03 GP-RW02-0417 0.25752, Description: GP-RW02-0417, Name: 170428G1_20, Date: 28-Apr-2017, Time: 15:15:58

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.166e4		0.258			
2	4 PFOA	413 > 368.7	1.126e1	8.087e3		0.258	4.16	0.0646	
3	5 PFOS	499 > 79.9		1.166e4		0.258			
4	7 13C2-PFHxA	315.0 > 269.8	2.789e3	8.087e3	0.405	0.258	3.25	33.1	85.2
5	8 13C2-PFDA	515.1 > 469.9	4.241e3	8.087e3	0.629	0.258	4.82	32.4	83.4
6	9 13C2-PFOA	414.9 > 369.7	8.087e3	8.087e3	1.000	0.258	4.17	38.8	100
7	10 13C4-PFOS	503.0 > 79.9	1.166e4	1.166e4	1.000	0.258	4.58	111	100

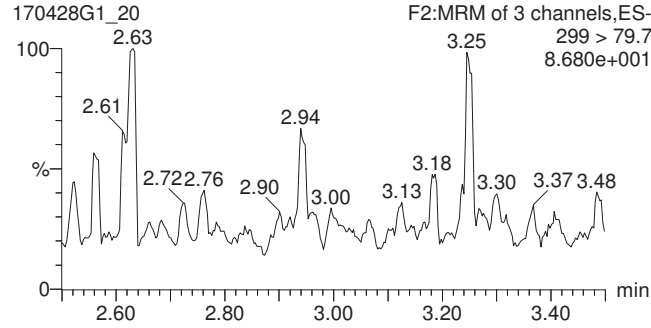
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Last Altered: Saturday, April 29, 2017 09:39:10 Pacific Daylight Time
Printed: Saturday, April 29, 2017 09:39:32 Pacific Daylight Time

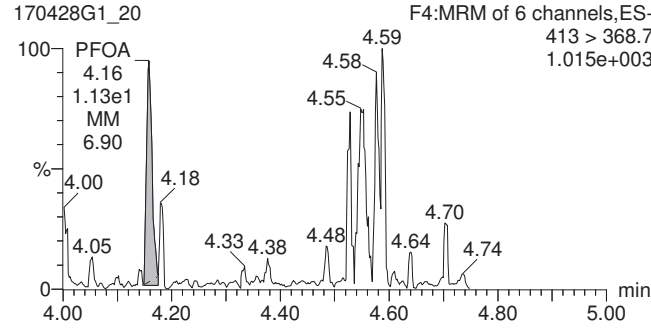
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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-03 GP-RW02-0417 0.25752, Description: GP-RW02-0417, Name: 170428G1_20, Date: 28-Apr-2017, Time: 15:15:58, Instrument: , Lab: , User:

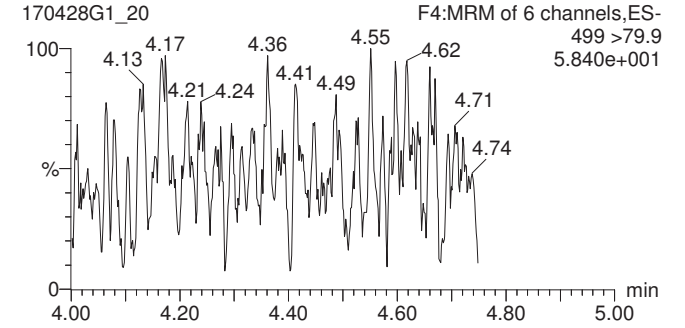
PFBS



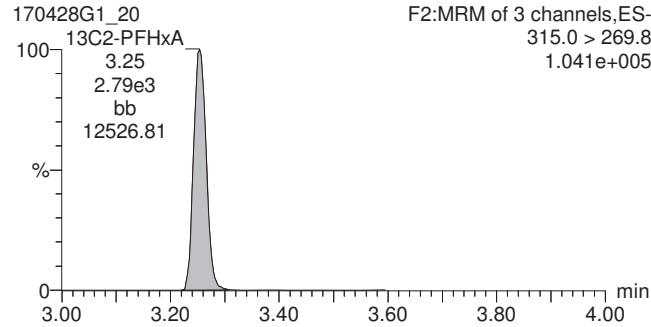
PFOA



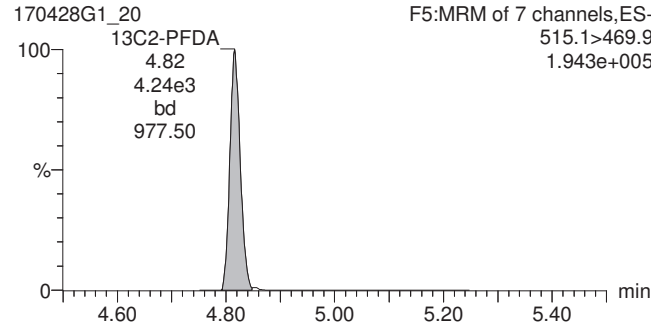
PFOS



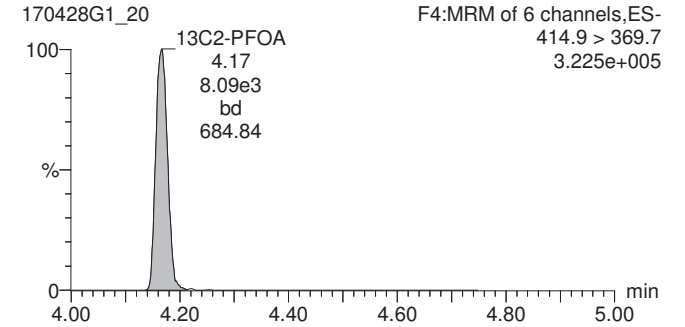
13C2-PFHxA



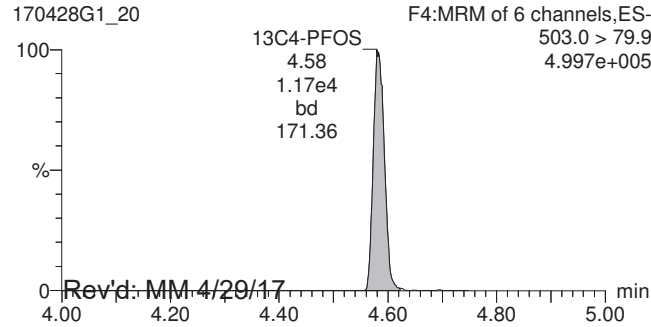
13C2-PFDA



13C2-PFOA



13C4-PFOS



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Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-21.qld

Last Altered: Saturday, April 29, 2017 09:40:27 Pacific Daylight Time

Printed: Saturday, April 29, 2017 09:40:47 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-04 GP-FB02-0417 0.28576, Description: GP-FB02-0417, Name: 170428G1_21, Date: 28-Apr-2017, Time: 15:28:23

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.068e4		0.286			
2	4 PFOA	413 > 368.7	1.897e1	7.866e3		0.286	4.16	0.101	
3	5 PFOS	499 >79.9		1.068e4		0.286			
4	7 13C2-PFHxA	315.0 > 269.8	3.099e3	7.866e3	0.405	0.286	3.25	34.1	97.3
5	8 13C2-PFDA	515.1>469.9	5.134e3	7.866e3	0.629	0.286	4.82	36.3	104
6	9 13C2-PFOA	414.9 > 369.7	7.866e3	7.866e3	1.000	0.286	4.16	35.0	100
7	10 13C4-PFOS	503.0 > 79.9	1.068e4	1.068e4	1.000	0.286	4.58	100	100

Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-21.qld

Last Altered: Saturday, April 29, 2017 09:40:27 Pacific Daylight Time

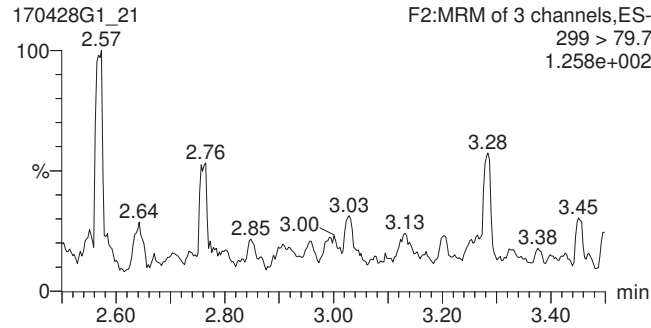
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Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

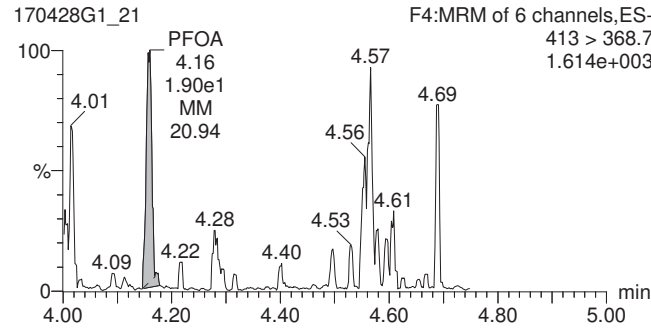
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-04 GP-FB02-0417 0.28576, Description: GP-FB02-0417, Name: 170428G1_21, Date: 28-Apr-2017, Time: 15:28:23, Instrument: , Lab: , User:

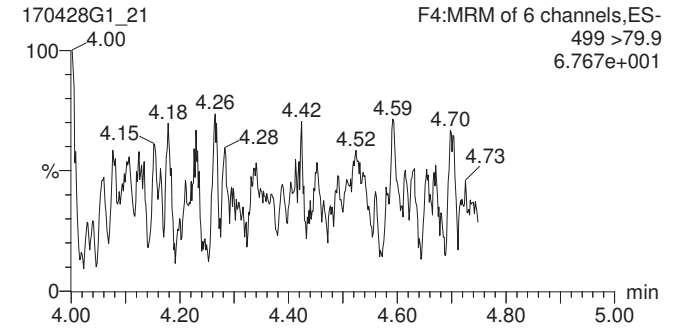
PFBS



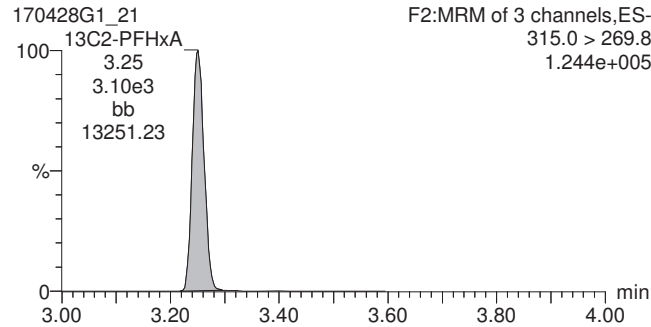
PFOA



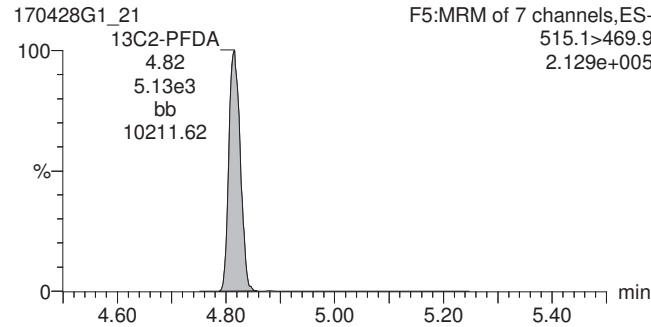
PFOS



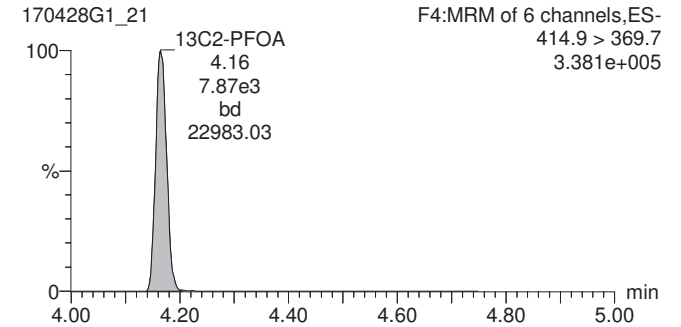
13C2-PFHxA



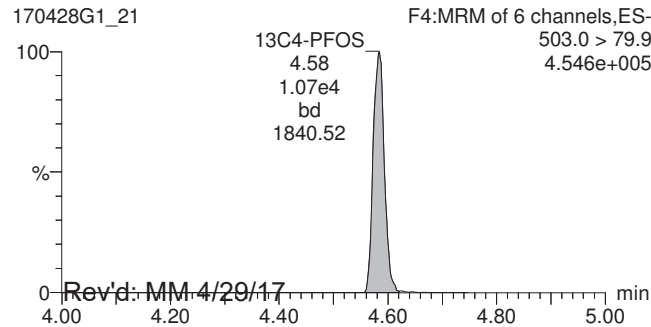
13C2-PFDA



13C2-PFOA



13C4-PFOS



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Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-22.qld

Last Altered: Saturday, April 29, 2017 09:41:29 Pacific Daylight Time

Printed: Saturday, April 29, 2017 09:41:57 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-05 GP-RW03-0417 0.27258, Description: GP-RW03-0417, Name: 170428G1_22, Date: 28-Apr-2017, Time: 15:40:55

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.057e4		0.273			
2	4 PFOA	413 > 368.7	2.710e1	7.233e3		0.273	4.17	0.164	
3	5 PFOS	499 > 79.9		1.057e4		0.273			
4	7 13C2-PFHxA	315.0 > 269.8	2.947e3	7.233e3	0.405	0.273	3.25	36.9	101
5	8 13C2-PFDA	515.1 > 469.9	4.934e3	7.233e3	0.629	0.273	4.81	39.8	108
6	9 13C2-PFOA	414.9 > 369.7	7.233e3	7.233e3	1.000	0.273	4.16	36.7	100
7	10 13C4-PFOS	503.0 > 79.9	1.057e4	1.057e4	1.000	0.273	4.58	105	100

Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-22.qld

Last Altered: Saturday, April 29, 2017 09:41:29 Pacific Daylight Time

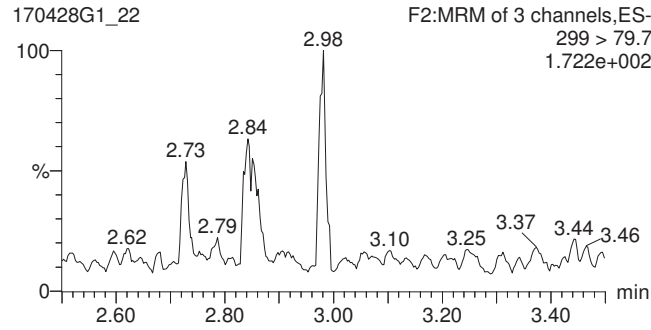
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Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

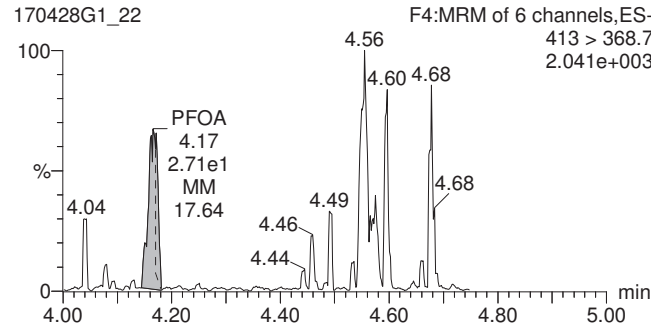
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-05 GP-RW03-0417 0.27258, Description: GP-RW03-0417, Name: 170428G1_22, Date: 28-Apr-2017, Time: 15:40:55, Instrument: , Lab: , User:

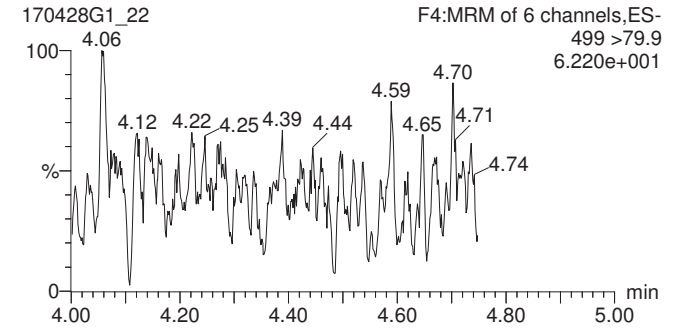
PFBS



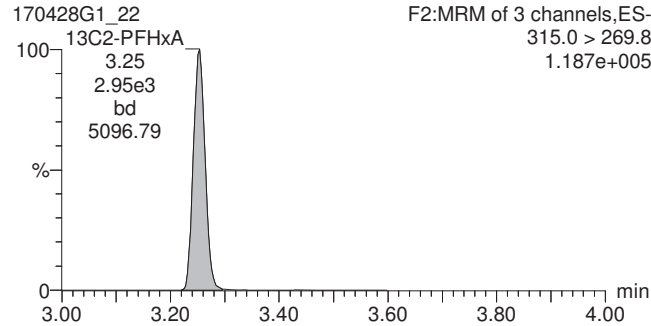
PFOA



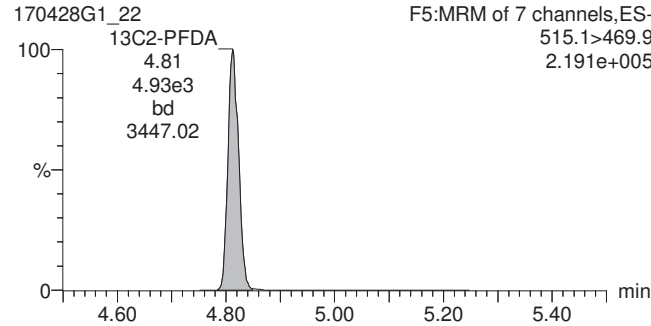
PFOS



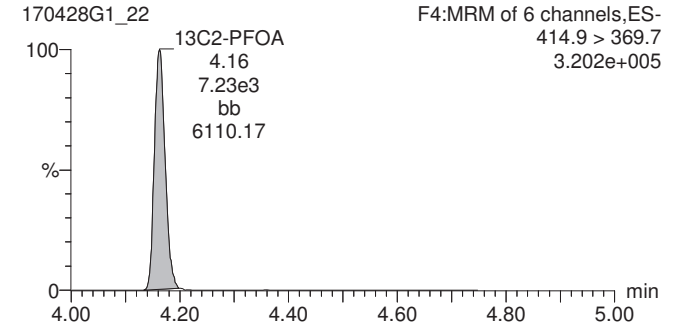
13C2-PFHxA



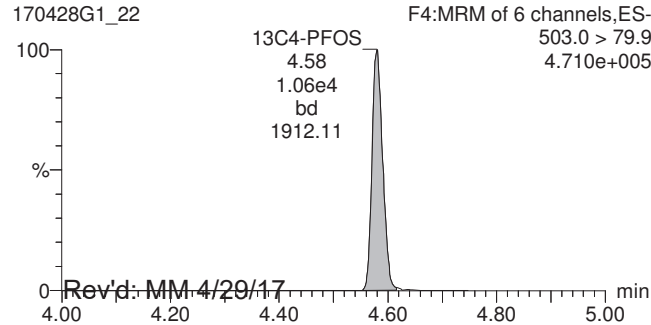
13C2-PFDA



13C2-PFOA



13C4-PFOS



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Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-23.qld

Last Altered: Saturday, April 29, 2017 09:42:45 Pacific Daylight Time

Printed: Saturday, April 29, 2017 09:43:03 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-06 GP-FB03-0417 0.2966, Description: GP-FB03-0417, Name: 170428G1_23, Date: 28-Apr-2017, Time: 15:54:21

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.340e3		0.297			
2	4 PFOA	413 > 368.7	4.952e1	6.285e3		0.297	4.16	0.317	
3	5 PFOS	499 > 79.9		9.340e3		0.297			
4	7 13C2-PFHxA	315.0 > 269.8	2.716e3	6.285e3	0.405	0.297	3.24	36.0	107
5	8 13C2-PFDA	515.1 > 469.9	4.493e3	6.285e3	0.629	0.297	4.81	38.3	114
6	9 13C2-PFOA	414.9 > 369.7	6.285e3	6.285e3	1.000	0.297	4.16	33.7	100
7	10 13C4-PFOS	503.0 > 79.9	9.340e3	9.340e3	1.000	0.297	4.58	96.8	100

Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-23.qld

Last Altered: Saturday, April 29, 2017 09:42:45 Pacific Daylight Time

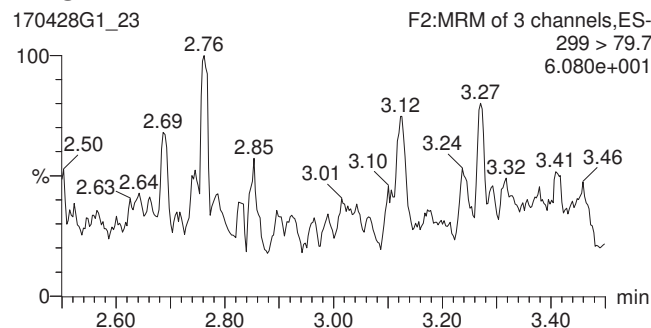
Printed: Saturday, April 29, 2017 09:43:03 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

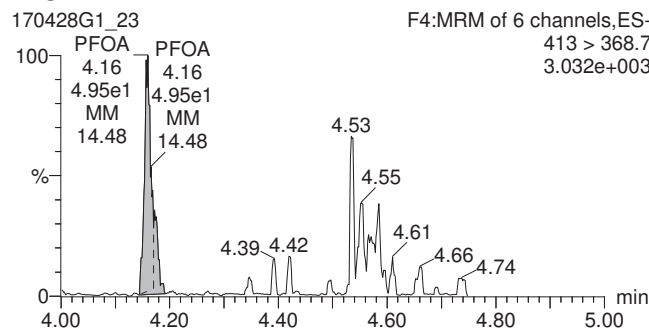
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-06 GP-FB03-0417 0.2966, Description: GP-FB03-0417, Name: 170428G1_23, Date: 28-Apr-2017, Time: 15:54:21, Instrument: , Lab: , User:

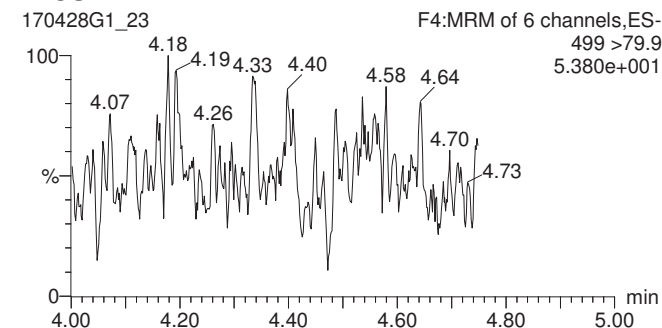
PFBS



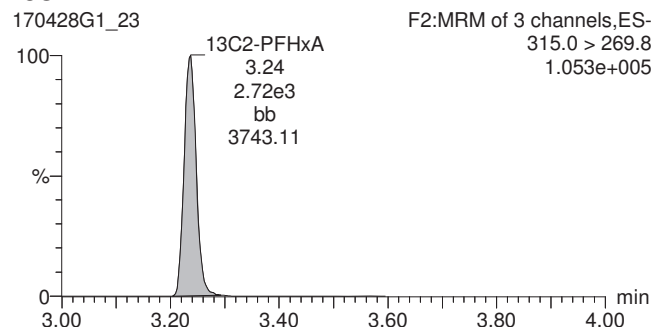
PFOA



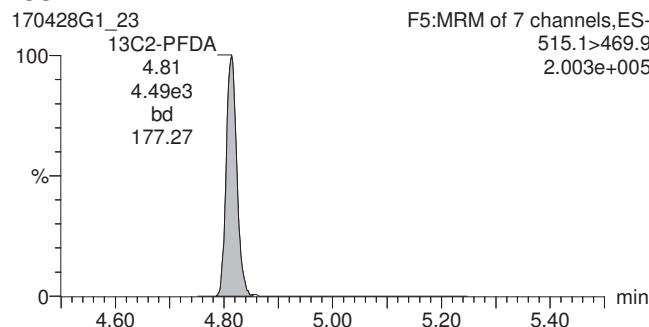
PFOS



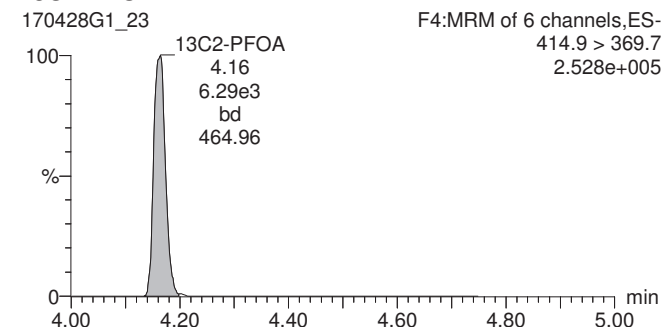
13C2-PFHxA



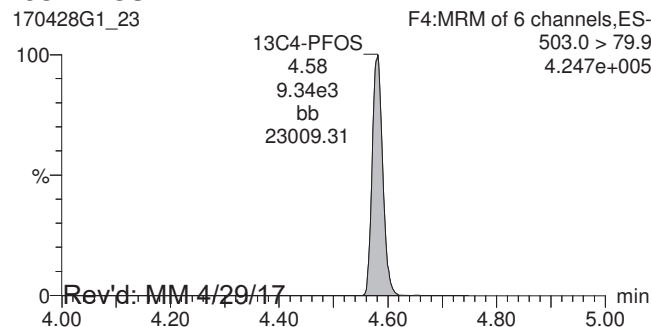
13C2-PFDA



13C2-PFOA



13C4-PFOS



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Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-24.qld

Last Altered: Saturday, April 29, 2017 09:43:48 Pacific Daylight Time

Printed: Saturday, April 29, 2017 09:44:06 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-07 GP-RW04-0417 0.28009, Description: GP-RW04-0417, Name: 170428G1_24, Date: 28-Apr-2017, Time: 16:06:43

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.055e4		0.280			
2	4 PFOA	413 > 368.7		7.355e3		0.280			
3	5 PFOS	499 >79.9		1.055e4		0.280			
4	7 13C2-PFHxA	315.0 > 269.8	3.074e3	7.355e3	0.405	0.280	3.25	36.9	103
5	8 13C2-PFDA	515.1>469.9	4.949e3	7.355e3	0.629	0.280	4.81	38.2	107
6	9 13C2-PFOA	414.9 > 369.7	7.355e3	7.355e3	1.000	0.280	4.16	35.7	100
7	10 13C4-PFOS	503.0 > 79.9	1.055e4	1.055e4	1.000	0.280	4.58	102	100

Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-24.qld

Last Altered: Saturday, April 29, 2017 09:43:48 Pacific Daylight Time

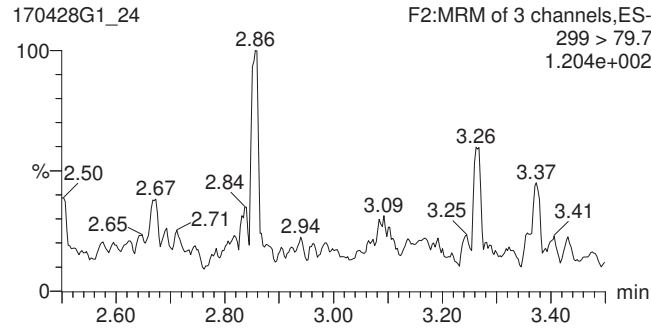
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Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

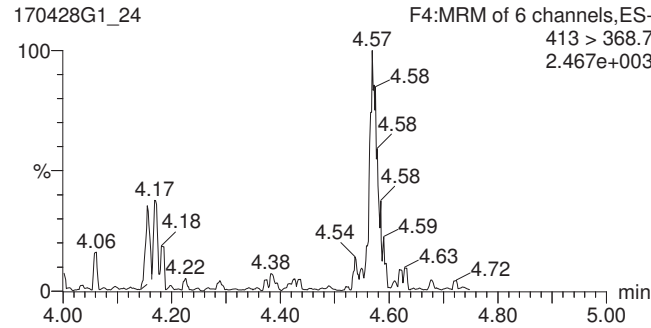
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-07 GP-RW04-0417 0.28009, Description: GP-RW04-0417, Name: 170428G1_24, Date: 28-Apr-2017, Time: 16:06:43, Instrument: , Lab: , User:

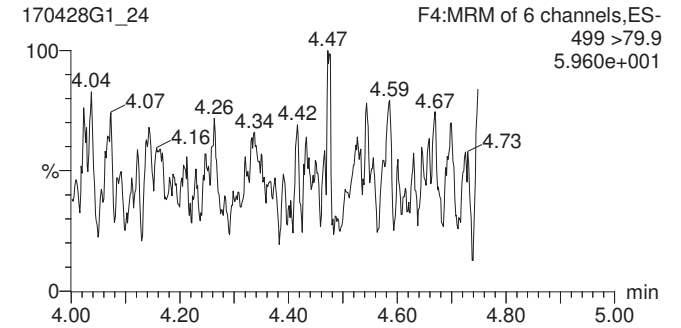
PFBS



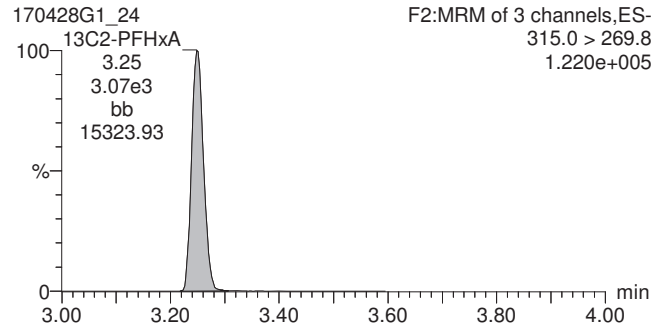
PFOA



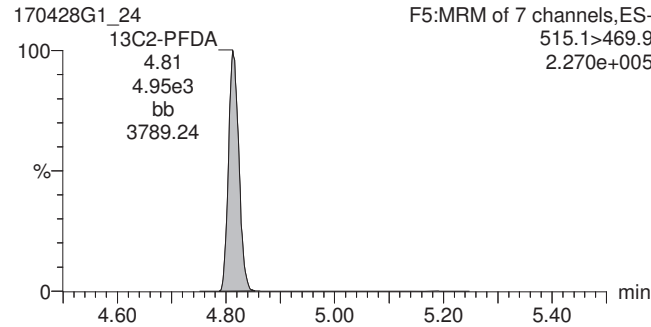
PFOS



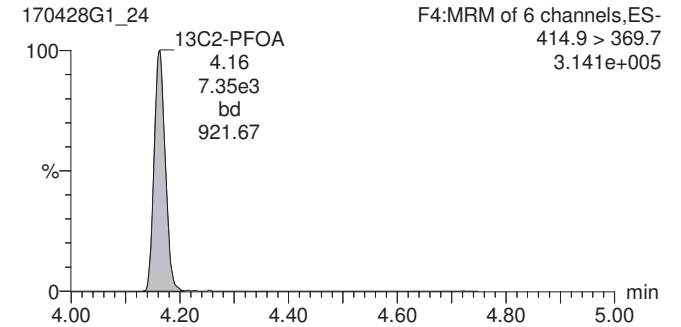
13C2-PFHxA



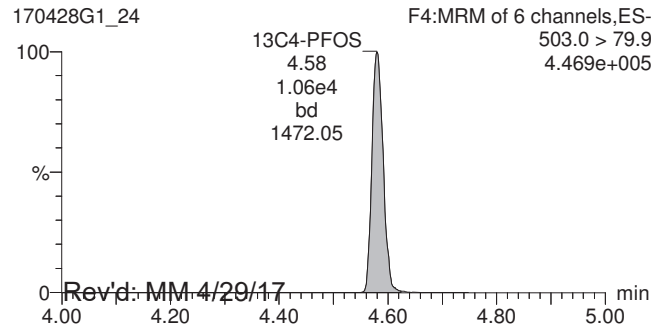
13C2-PFDA



13C2-PFOA



13C4-PFOS



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Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-25.qld

Last Altered: Saturday, April 29, 2017 09:45:11 Pacific Daylight Time

Printed: Saturday, April 29, 2017 09:45:31 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-08 GP-FB04-0417 0.29432, Description: GP-FB04-0417, Name: 170428G1_25, Date: 28-Apr-2017, Time: 16:19:08

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.091e4		0.294			
2	4 PFOA	413 > 368.7	2.698e1	8.100e3		0.294	4.16	0.135	
3	5 PFOS	499 > 79.9		1.091e4		0.294			
4	7 13C2-PFHxA	315.0 > 269.8	2.995e3	8.100e3	0.405	0.294	3.25	31.1	91.4
5	8 13C2-PFDA	515.1 > 469.9	5.410e3	8.100e3	0.629	0.294	4.81	36.1	106
6	9 13C2-PFOA	414.9 > 369.7	8.100e3	8.100e3	1.000	0.294	4.16	34.0	100
7	10 13C4-PFOS	503.0 > 79.9	1.091e4	1.091e4	1.000	0.294	4.58	97.5	100

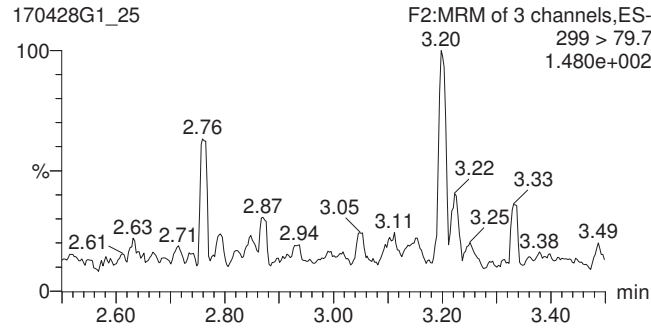
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Last Altered: Saturday, April 29, 2017 09:45:11 Pacific Daylight Time
Printed: Saturday, April 29, 2017 09:45:31 Pacific Daylight Time

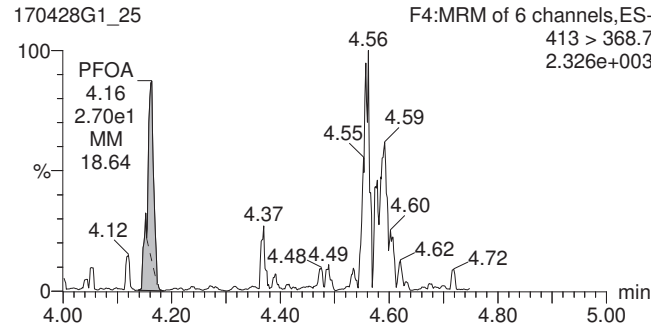
Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-08 GP-FB04-0417 0.29432, Description: GP-FB04-0417, Name: 170428G1_25, Date: 28-Apr-2017, Time: 16:19:08, Instrument: , Lab: , User:

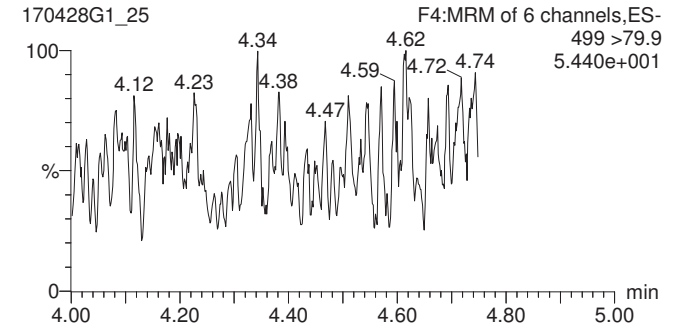
PFBS



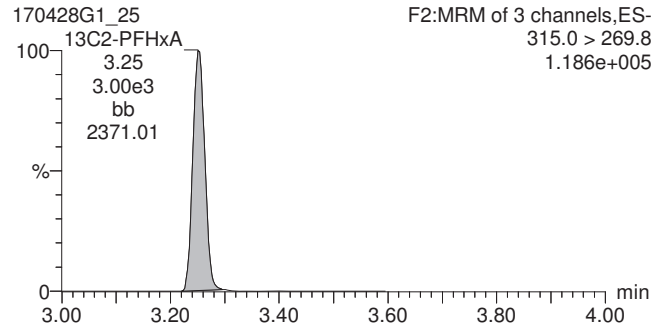
PFOA



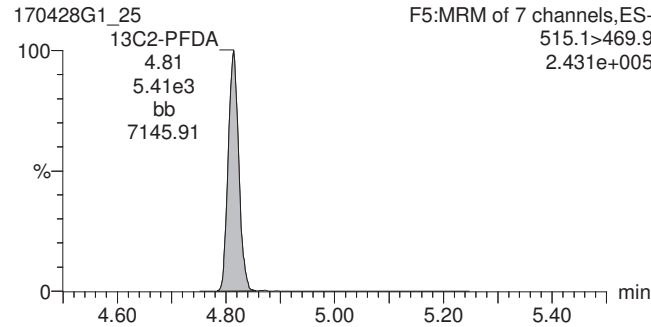
PFOS



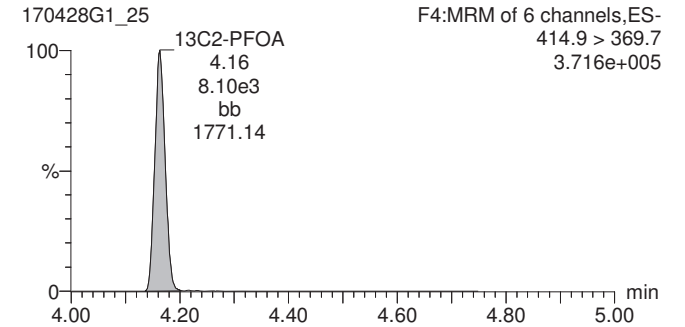
13C2-PFHxA



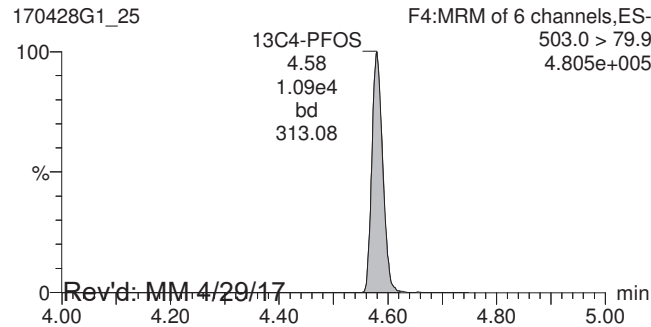
13C2-PFDA



13C2-PFOA



13C4-PFOS



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Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-26.qld

Last Altered: Saturday, April 29, 2017 09:46:18 Pacific Daylight Time

Printed: Saturday, April 29, 2017 09:46:41 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-09 GP-RW05-0417 0.27182, Description: GP-RW05-0417, Name: 170428G1_26, Date: 28-Apr-2017, Time: 16:31:33

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.017e4		0.272			
2	4 PFOA	413 > 368.7	2.761e1	6.904e3		0.272	4.14	0.176	
3	5 PFOS	499 >79.9		1.017e4		0.272			
4	7 13C2-PFHxA	315.0 > 269.8	3.261e3	6.904e3	0.405	0.272	3.21	42.9	117
5	8 13C2-PFDA	515.1>469.9	5.089e3	6.904e3	0.629	0.272	4.79	43.1	117
6	9 13C2-PFOA	414.9 > 369.7	6.904e3	6.904e3	1.000	0.272	4.14	36.8	100
7	10 13C4-PFOS	503.0 > 79.9	1.017e4	1.017e4	1.000	0.272	4.55	106	100

Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-26.qld

Last Altered: Saturday, April 29, 2017 09:46:18 Pacific Daylight Time

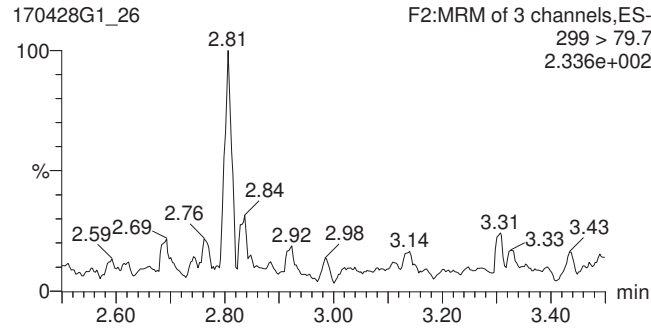
Printed: Saturday, April 29, 2017 09:46:41 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

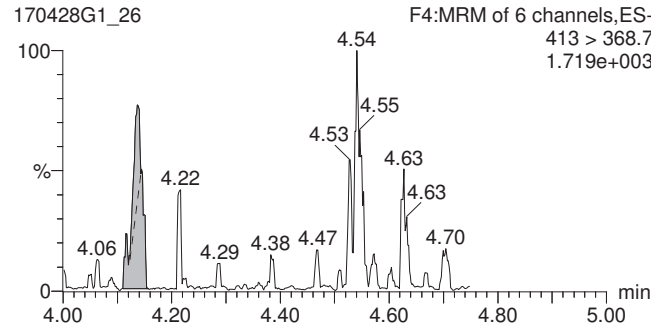
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-09 GP-RW05-0417 0.27182, Description: GP-RW05-0417, Name: 170428G1_26, Date: 28-Apr-2017, Time: 16:31:33, Instrument: , Lab: , User:

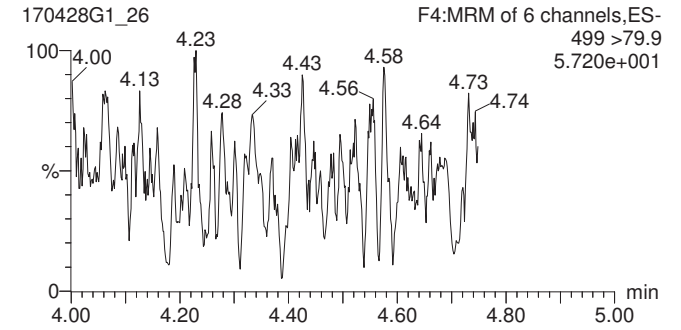
PFBS



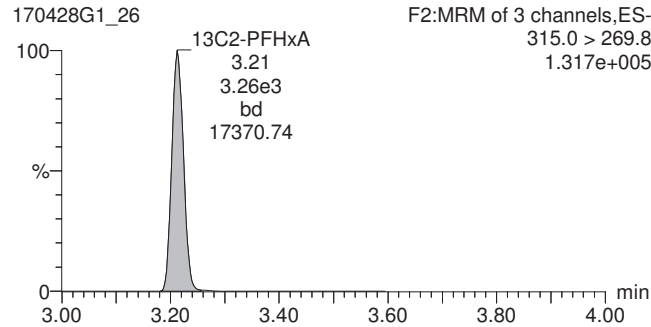
PFOA



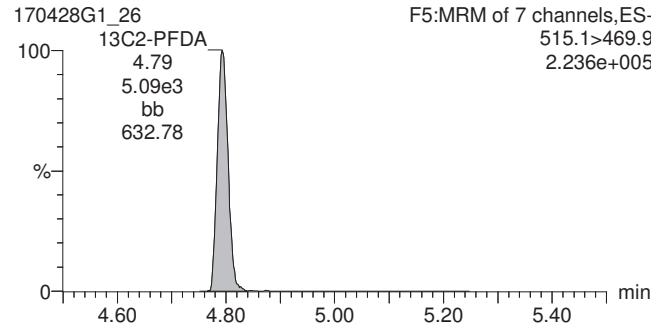
PFOS



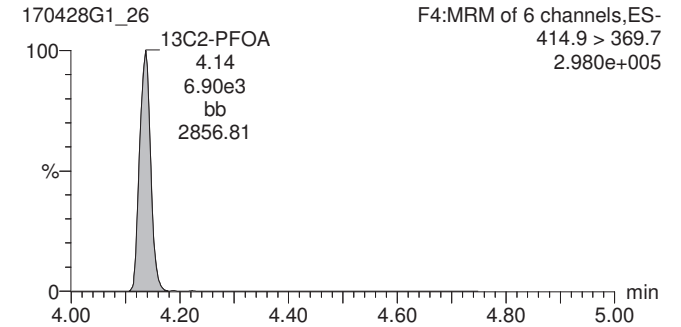
13C2-PFHxA



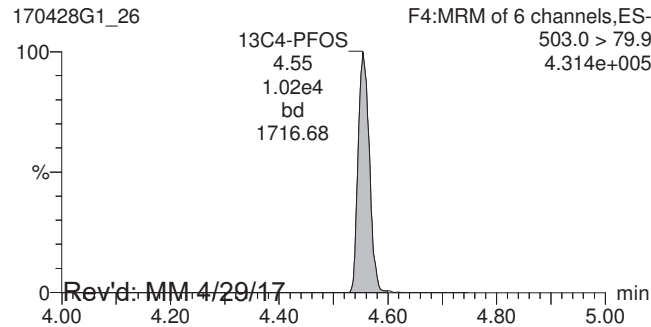
13C2-PFDA



13C2-PFOA



13C4-PFOS



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Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-27.qld

Last Altered: Saturday, April 29, 2017 09:47:32 Pacific Daylight Time

Printed: Saturday, April 29, 2017 09:47:49 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-10 GP-FB05-0417 0.2872, Description: GP-FB05-0417, Name: 170428G1_27, Date: 28-Apr-2017, Time: 16:43:57

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.130e4		0.287			
2	4 PFOA	413 > 368.7	3.472e1	7.455e3		0.287	4.13	0.194	
3	5 PFOS	499 >79.9		1.130e4		0.287			
4	7 13C2-PFHxA	315.0 > 269.8	3.377e3	7.455e3	0.405	0.287	3.19	39.0	112
5	8 13C2-PFDA	515.1>469.9	5.406e3	7.455e3	0.629	0.287	4.79	40.2	115
6	9 13C2-PFOA	414.9 > 369.7	7.455e3	7.455e3	1.000	0.287	4.13	34.8	100
7	10 13C4-PFOS	503.0 > 79.9	1.130e4	1.130e4	1.000	0.287	4.55	99.9	100

Dataset: U:\G1.PRO\Results\2017\170428G1\170428G1-27.qld

Last Altered: Saturday, April 29, 2017 09:47:32 Pacific Daylight Time

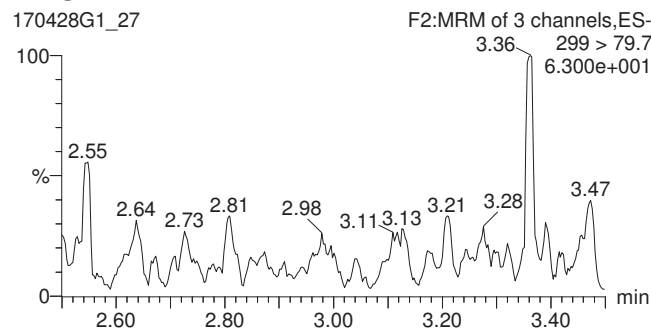
Printed: Saturday, April 29, 2017 09:47:49 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

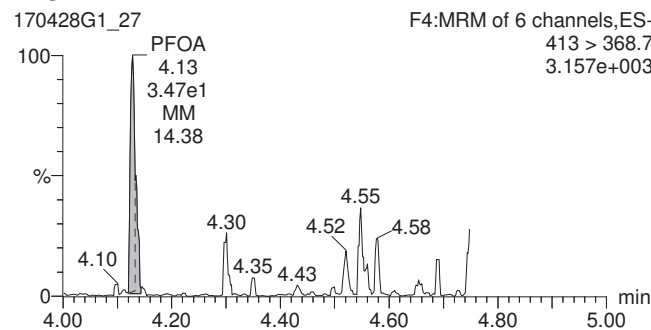
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_4-28-17_L6.cdb 28 Apr 2017 14:03:59

ID: 1700507-10 GP-FB05-0417 0.2872, Description: GP-FB05-0417, Name: 170428G1_27, Date: 28-Apr-2017, Time: 16:43:57, Instrument: , Lab: , User:

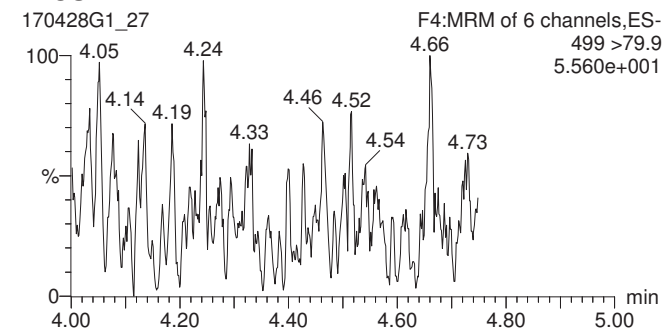
PFBS



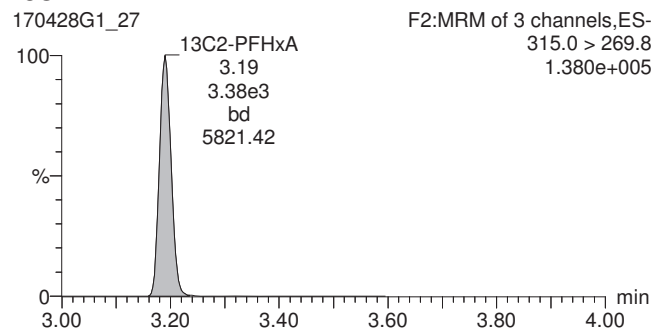
PFOA



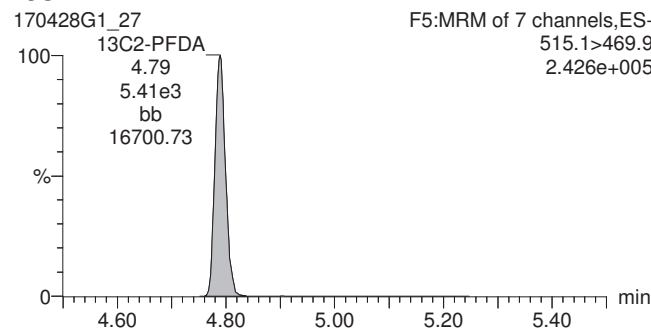
PFOS



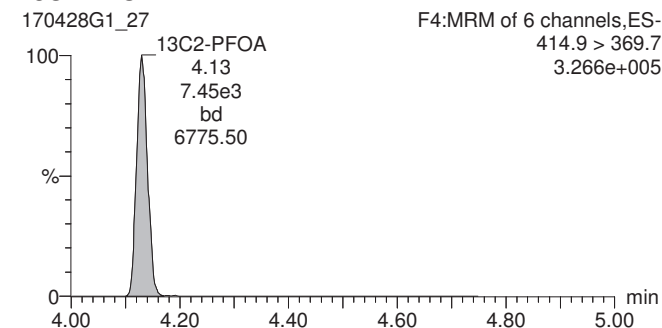
13C2-PFHxA



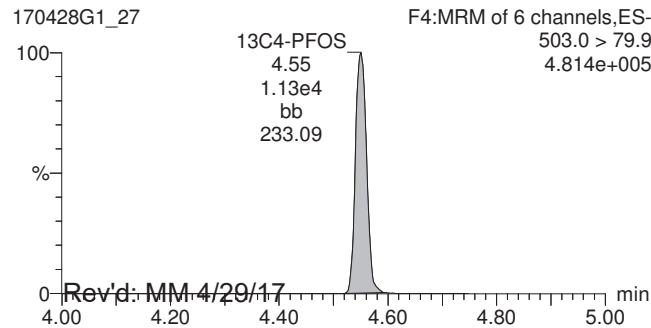
13C2-PFDA



13C2-PFOA



13C4-PFOS



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Contract_ID	DO_CTO_Number	Phase	Installation_ID	Sample_Name	Analysis_Result_Type	Result_Narrative	QC_Control_Limit_Code	QC_Accuracy_Upper	QC_Accuracy_Lower	Control_Limit_Date	QC_Narrative	MDL	Detection_Limit	QSM_Version	DL	LOD	LOQ	SDG	Analysis_Batch	Validator_Name	Val_Date
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N6247016D9000	0008		GULFPORT_NCBC	GP-RW01-0417	TRG								5.0	3.87	9.06	18.1	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW01-0417	TRG								5.0	1.78	9.06	18.1	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW01-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW01-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB01-0417	TRG								5.0	2.18	8.68	17.4	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB01-0417	TRG								5.0	3.71	8.68	17.4	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB01-0417	TRG								5.0	1.70	8.68	17.4	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB01-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB01-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW02-0417	TRG								5.0	2.44	9.71	19.4	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW02-0417	TRG								5.0	4.15	9.71	19.4	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW02-0417	TRG								5.0	1.90	9.71	19.4	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW02-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW02-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB02-0417	TRG								5.0	2.20	8.75	17.5	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB02-0417	TRG								5.0	3.74	8.75	17.5	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB02-0417	TRG								5.0	1.71	8.75	17.5	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB02-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB02-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW03-0417	TRG								5.0	2.30	9.17	18.3	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW03-0417	TRG								5.0	3.92	9.17	18.3	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW03-0417	TRG								5.0	1.80	9.17	18.3	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW03-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW03-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB03-0417	TRG								5.0	2.12	8.43	16.9	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB03-0417	TRG								5.0	3.60	8.43	16.9	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB03-0417	TRG								5.0	1.65	8.43	16.9	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB03-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB03-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW04-0417	TRG								5.0	2.24	8.93	17.9	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW04-0417	TRG								5.0	3.81	8.93	17.9	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW04-0417	TRG								5.0	1.75	8.93	17.9	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW04-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW04-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB04-0417	TRG								5.0	2.13	8.49	17.0	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB04-0417	TRG								5.0	3.63	8.49	17.0	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB04-0417	TRG								5.0	1.66	8.49	17.0	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB04-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB04-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW05-0417	TRG								5.0	2.31	9.20	18.4	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW05-0417	TRG								5.0	3.93	9.20	18.4	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW05-0417	TRG								5.0	1.80	9.20	18.4	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW05-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-RW05-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB05-0417	TRG								5.0	2.18	8.70	17.4	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB05-0417	TRG								5.0	3.72	8.70	17.4	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB05-0417	TRG								5.0	1.71	8.70	17.4	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB05-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	GP-FB05-0417			SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	Blank	TRG								5.0	2.51	10.0	20.0	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	Blank	TRG								5.0	4.27	10.0	20.0	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	Blank	TRG								5.0	1.96	10.0	20.0	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	Blank	SUR		SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	Blank	SUR		SLSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	LCS	TRG		LSA	130	70				5.0	2.51	10.0	20.0	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	LCS	TRG		LSA	130	70				5.0	4.27	10.0	20.0	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	LCS	TRG		LSA	130	70				5.0	1.96	10.0	20.0	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	LCS	SUR		LSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	LCS	SUR		LSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	LCS Dup	TRG		LSA	130	70				5.0	2.51	10.0	20.0	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	LCS Dup	TRG		LSA	130	70				5.0	4.27	10.0	20.0	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	LCS Dup	TRG		LSA	130	70				5.0	1.96	10.0	20.0	1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	LCS Dup	SUR		LSA	130	70				5.0				1700507	S7D0056			
N6247016D9000	0008		GULFPORT_NCBC	LCS Dup	SUR		LSA	130	70				5.0				1700507	S7D0056			

**DATA VALIDATION SUMMARY REPORT
NCBC GULFPORT-NAVY, MISSISSIPPI**

Client: CH2M HILL, Inc., Corvallis, Oregon
 SDG: 1700507
 Laboratory: Vista Analytical Laboratory, El Dorado Hills, California
 Site: NCBC Gulfport-Navy, Mississippi, CTO-0008
 Date: May 10, 2017

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	GP-RW01-0417	1700507-01	Water
2	GP-FB01-0417	1700507-02	Water
3	GP-RW02-0417	1700507-03	Water
4	GP-FB02-0417	1700507-04	Water
5	GP-RW03-0417	1700507-05	Water
6	GP-FB03-0417	1700507-06	Water
7	GP-RW04-0417	1700507-07	Water
8	GP-FB04-0417	1700507-08	Water
9	GP-RW05-0417	1700507-09	Water
10	GP-FB05-0417	1700507-10	Water

A full data validation was performed on the analytical data for five water samples and five aqueous field blank samples collected on April 19-20, 2017 by CH2M HILL at the NCBC Gulfport-Navy site in Mississippi. The samples were analyzed under the EPA Method “Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)”.

Specific method references are as follows:

Analysis
PFCs

Method References
USEPA Method 537 Modified

The data have been validated according to the protocols and quality control (QC) requirements of the analytical method, and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM), Version 5.0 (July 2013) and the USEPA National Functional Guidelines for Organic Data Review as follows:

- The USEPA “Contract Laboratories Program National Functional Guidelines for Superfund Organic Methods Data Review,” August 2014;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Date Completeness, Case Narrative & Custody Documentation
- Holding times
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate recovery (%R)
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) recoveries
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

A full (Level IV) data validation was performed with this review including a recalculation of 10% of the detected results in the samples.

Data Usability Assessment

There were no rejections of data.

Overall the data is acceptable for the intended purposes. There were no qualifications.

Perfluorinated Compounds (PFCs)

Data Completeness, Case Narrative & Custody Documentation

- The case narrative and chain-of-custody documentation were included in the data package as required. All criteria were met.

Holding Times

- All samples were extracted within 14 days for water samples and analyzed within 28 days.

Initial Calibration

- All percent difference (%D) and/or correlation coefficients criteria were met.

Continuing Calibration

- All percent recovery (%R) criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- The field blank samples were free of contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
GP-FB01-0417	None - ND	-	-	-
GP-FB02-0417	None - ND	-	-	-
GP-FB03-0417	None - ND	-	-	-
GP-FB04-0417	None - ND	-	-	-
GP-FB05-0417	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed due to insufficient sample volume provided.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

- The LCS/LCSD samples exhibited acceptable percent recoveries (%R) and RPD values.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver
Nancy Weaver
Senior Chemist

Dated: 5/11/17

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

Sample ID: GP-RW01-0417

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08 / NCBC Gulfport-Navy
Date Collected: 19-Apr-2017 11:35
Location: Gulfpost / Residential

Sample Data

Matrix: Drinking Water
Sample Size: 0.276 L

Laboratory Data

Lab Sample: 1700507-01 Date Received: 22-Apr-2017 10:16
QC Batch: B7D0117 Date Extracted: 24-Apr-2017 12:47
Date Analyzed: 28-Apr-17 14:51 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.27	9.06	18.1		SUR 13C2-PFHxA	102	70- 130	
PFOA	ND	3.87	9.06	18.1		SUR 13C2-PFDA	110	70- 130	
PFOS	ND	1.78	9.06	18.1					

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers

Only the linear isomer is reported for all other analytes

nw sl. 01.7

2

Sample ID: GP-FB01-0417

EPA Method 537

Client Data		Sample Data		Laboratory Data	
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1700507-02
Project:	CTO-08 / NCBC Gulfport-Navy	Sample Size:	0.288 L	Date Received:	22-Apr-2017 10:16
Date Collected:	19-Apr-2017 11:36			QC Batch:	B7D0117
Location:	Gulfpost / Residential			Date Analyzed:	28-Apr-17 15:03 Column: BEH C18
Date Collected:	19-Apr-2017 11:36				

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.18	8.68	17.4		SUR 13C2-PFHxA	100	70- 130	
PFOA	ND	3.71	8.68	17.4		SUR 13C2-PFDA	106	70- 130	
PFOS	ND	1.70	8.68	17.4					

DL - Detection limit
RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
Results reported to DL
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes

new 5/10/17

3

Sample ID: GP-RW02-0417						EPA Method 537				
Client Data			Sample Data			Laboratory Data				
Name:	CH2M Hill		Matrix:	Drinking Water		Lab Sample:	1700507-03	Date Received:	22-Apr-2017 10:16	
Project:	CTO-08 / NCBC Gulfport-Navy		Sample Size:	0.258 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	19-Apr-2017 12:13					Date Analyzed:	28-Apr-17 15:15 Column: BEH C18			
Location:	Gulfpost / Residential									
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
PFBS	ND	2.44	9.71	19.4		SUR 13C2-PFHxA	85.2	70 - 130		
PFOA	ND	4.15	9.71	19.4		SUR 13C2-PFDA	83.4	70 - 130		
PFOS	ND	1.90	9.71	19.4						

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxA, PFOA and PFOS include both linear and branched isomers

Only the linear isomer is reported for all other analytes

nw sl1017

4

Sample ID: GP-FB02-0417					EPA Method 537				
Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1700507-04	Date Received:	22-Apr-2017 10:16		
Project:	CTO-08 / NCBC Gulfport-Navy	Sample Size:	0.286 L	QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47		
Date Collected:	19-Apr-2017 12:14			Date Analyzed:	28-Apr-17 15:28 Column: BEH C18				
Location:	Gulfpost / Residential								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.20	8.75	17.5		SUR 13C2-PFHxA	97.3	70- 130	
PFOA	ND	3.74	8.75	17.5		SUR 13C2-PFDA	104	70- 130	
PFOS	ND	1.71	8.75	17.5					

DL - Detection limit
 RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
 Results reported to DL
 When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers
 Only the linear isomer is reported for all other analytes

new skoolia

5

Sample ID: GP-RW03-0417					EPA Method 537						
Client Data			Sample Data		Laboratory Data						
Name:	CH2M Hill		Matrix:	Drinking Water		Lab Sample:	1700507-05	Date Received:	22-Apr-2017 10:16		
Project:	CTO-08 / NCBC Gulfport-Navy		Sample Size:	0.273 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47		
Date Collected:	19-Apr-2017 17:47							Date Analyzed:	28-Apr-17 15:40 Column: BEH C18		
Location:	Gulfpost / Residential										
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers		
PFBS	ND	2.30	9.17	18.3		SUR 13C2-PFHxA	101	70 - 130			
PFOA	ND	3.92	9.17	18.3		SUR 13C2-PFDA	109	70 - 130			
PFOS	ND	1.80	9.17	18.3							

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers

Only the linear isomer is reported for all other analytes

rwsl1017

6

Sample ID: GP-FB03-0417						EPA Method 537				
Client Data			Sample Data			Laboratory Data				
Name:	CH2M Hill		Matrix:	Drinking Water		Lab Sample:	1700507-06	Date Received:	22-Apr-2017 10:16	
Project:	CTO-08 / NCBC Gulfport-Navy		Sample Size:	0.297 L		QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	19-Apr-2017 17:48					Date Analyzed:	28-Apr-17 15:54 Column: BEH C18			
Location:	Gulfpost / Residential									
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
PFBS	ND	2.12	8.43	16.9		SUR 13C2-PFHxA	107	70 - 130		
PFOA	ND	3.60	8.43	16.9		SUR 13C2-PFDA	114	70 - 130		
PFOS	ND	1.65	8.43	16.9						

DL - Detection limit
 RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
 Results reported to DL
 When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers
 Only the linear isomer is reported for all other analytes

1700507

7

Sample ID: GP-RW04-0417 EPA Method 537

Client Data		Sample Data		Laboratory Data	
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1700507-07
Project:	CTO-08 / NCBC Gulfport-Navy	Sample Size:	0.280 L	Date Received:	22-Apr-2017 10:16
Date Collected:	19-Apr-2017 17:59			QC Batch:	B7D0117
Location:	Gulfport / Residential			Date Analyzed:	28-Apr-17 16:06 Column: BEH C18
Date Collected:	19-Apr-2017 17:59				

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.24	8.93	17.9		SUR 13C2-PFHxA	103	70- 130	
PFOA	ND	3.81	8.93	17.9		SUR 13C2-PFDA	107	70- 130	
PFOS	ND	1.75	8.93	17.9					

DL - Detection limit
RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
Results reported to DL
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers
Only the linear isomer is reported for all other analytes

new sl101.7

Sample ID: GP-FB04-0417					EPA Method 537				
Client Data			Sample Data		Laboratory Data				
Name:	CH2M Hill		Matrix:	Drinking Water	Lab Sample:	1700507-08	Date Received:	22-Apr-2017 10:16	
Project:	CTO-08 / NCBC Gulfport-Navy		Sample Size:	0.294 L	QC Batch:	B7D0117	Date Extracted:	24-Apr-2017 12:47	
Date Collected:	19-Apr-2017 18:00				Date Analyzed:	28-Apr-17 16:19 Column: BEH C18			
Location:	Gulfpost / Residential								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.13	8.49	17.0		SUR 13C2-PFHxA	91.4	70- 130	
PFOA	ND	3.63	8.49	17.0		SUR 13C2-PFDA	106	70- 130	
PFOS	ND	1.66	8.49	17.0					

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers

Only the linear isomer is reported for all other analytes

see 5110117

9

Sample ID: GP-RW05-0417 **EPA Method 537**

Client Data		Sample Data		Laboratory Data	
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1700507-09
Project:	CTO-08 / NCBC Gulfport-Navy	Sample Size:	0.272 L	Date Received:	22-Apr-2017 10:16
Date Collected:	20-Apr-2017 8:13			QC Batch:	B7D0117
Location:	Gulfport / Residential			Date Analyzed:	28-Apr-17 16:31 Column: BEH C18
Date Collected:	20-Apr-2017 8:13				

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.31	9.20	18.4		SUR 13C2-PFHxA	117	70 - 130	
PFOA	ND	3.93	9.20	18.4		SUR 13C2-PFDA	117	70 - 130	
PFOS	ND	1.80	9.20	18.4					

DL - Detection limit
 RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
 Results reported to DL
 When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers
 Only the linear isomer is reported for all other analytes

rwslol17

Sample ID: GP-FB05-0417 **EPA Method 537**

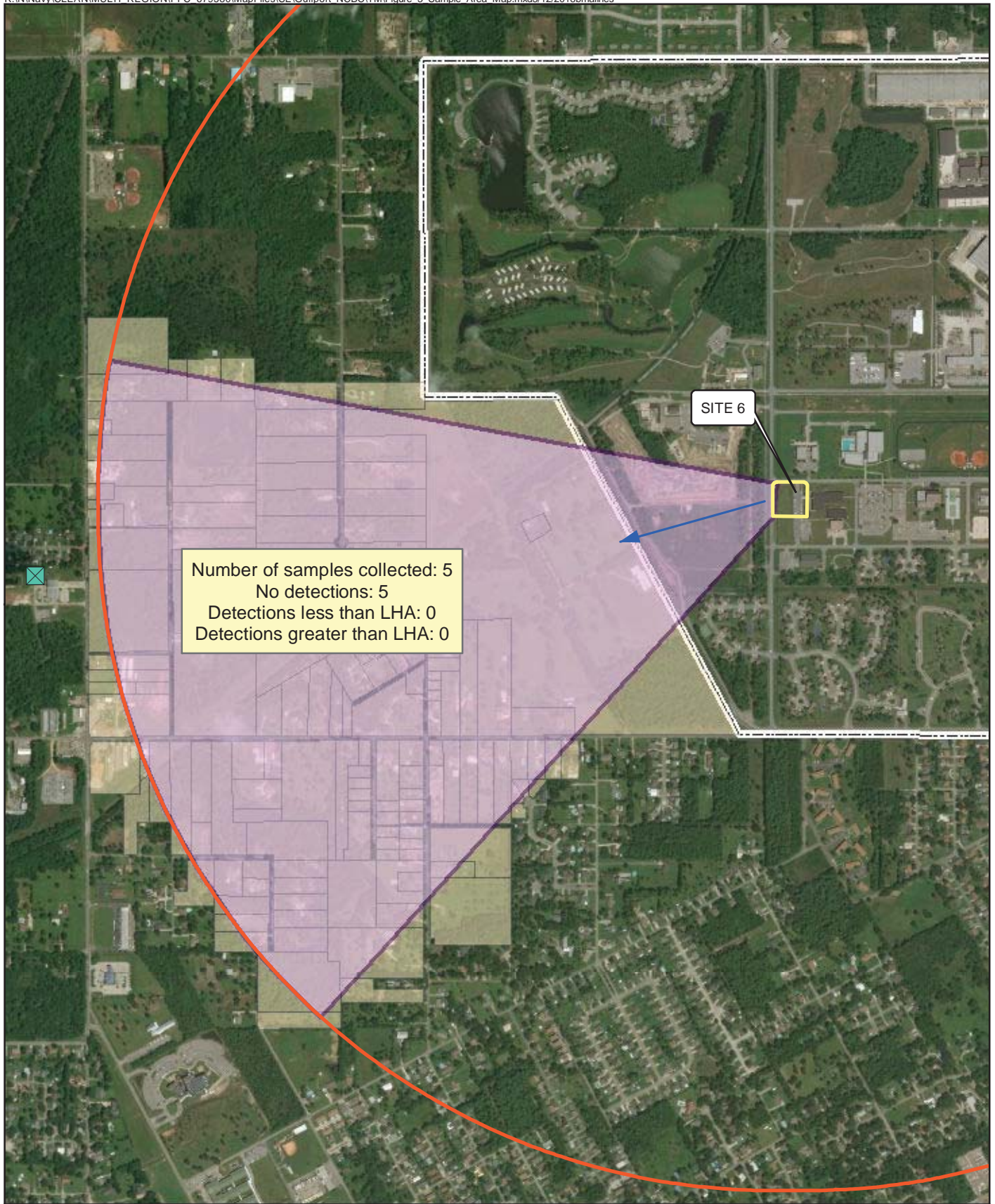
Client Data		Sample Data		Laboratory Data	
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1700507-10
Project:	CTO-08 / NCBC Gulfport-Navy	Sample Size:	0.287 L	Date Received:	22-Apr-2017 10:16
Date Collected:	20-Apr-2017 8:14			QC Batch:	B7D0117
Location:	Gulfport / Residential			Date Analyzed:	28-Apr-17 16:43 Column: BEH C18
Date Collected:	20-Apr-2017 8:14				
Location:	Gulfport / Residential				

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.18	8.70	17.4		SUR 13C2-PFHxA	112	70- 130	
PFOA	ND	3.72	8.70	17.4		SUR 13C2-PFDA	115	70- 130	
PFOS	ND	1.71	8.70	17.4					

DL - Detection limit
 RL - Reporting limit







LCL-UCL - Lower control limit - upper control limit
 Results reported to DL
 When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
 Only the linear isomer is reported for all other analytes.

new sheet



Number of samples collected: 5
No detections: 5
Detections less than LHA: 0
Detections greater than LHA: 0

Legend

-  Public Water Supply Well
-  Surficial Groundwater Flow Direction
-  Priority 1 Site Boundary
-  Downgradient Area
-  Site 6 - 1-mile zone
-  Installation Boundary

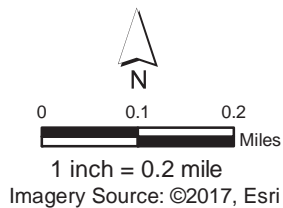


Figure 3
Sample Area Map
Naval Construction Battalion Center Gulfport
Gulfport, Mississippi